

SOAP

and SANITARY CHEMICALS



In this issue...

Soap industry meets N. Y.
Neil McElroy is re-elected

★ ★ ★ ★

Soap advertising claims
are reviewed in FTC cases

★ ★ ★ ★

What insecticide sprayers
for products sold today?

★ ★ ★ ★

Modern floor products by
centrifugal clarification

★ ★ ★ ★

Famous old Cashmere Bouquet Toilet Soap appears in new wrap (pink) . . . shown are the old and new (left) . . . one of the oldest American brands, made and sold by Colgate since 1860.

FEBRUARY 1951

for HIGH PURITY

Specify

SOLVAY

TRADE-MARK REG. U. S. PAT. OFF.

CAUSTIC

POTASH

- ★ 49-50% Liquid in Tank Cars
- ★ 45% Liquid in Drums
- ★ 90% Solid and Flake

LOW IN IRON and Other Impurities

SOLVAY SALES DIVISION

Allied Chemical & Dye Corporation

40 Rector Street, New York 6, N. Y.

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati
Cleveland • Detroit • Houston • New Orleans
New York • Philadelphia • Pittsburgh • St. Louis
Syracuse

Caustic Soda • Caustic Potash • Chlorine • Potassium Carbonate • Nytron • Calcium Chloride • Sodium Bicarbonate • Specialty Cleansers • Sodium Nitrite
Soda Ash • Ammonium Bicarbonate • Para-dichlorobenzene • Ortho-dichlorobenzene • Monochlorobenzene • Methanol • Ammonium Chloride • Formaldehyde

THROW THEM AWAY!



and Replace Them with...

DUST-CONTROLLING

TROL-DUS

ANTISEPTIC FLOOR DRESSING

Kiss them all goodbye—the barrels of old-fashioned floor oils, the brushes, brooms and utensils stained by messy sweeping compounds! Here is dust-controlling Trol-Dus, the one popular product that replaces many—the product that leaves floors, both new and old, with an enhancing lustre.

NOW . . . IT'S WATER-MISCIBLE

That makes it as economical as a Scotchman! Mix our easy-to-use antiseptic floor dressing with an equal amount of water and

watch the s-t-r-e-t-c-h!

And now, too, it has these added advantages . . . it is safe to use on any type floor and a cinch to wash out of mops!

CONTAINS A BACTERIOSTATIC AGENT

Trol-Dus controls dust-borne bacteria and virus particles, thereby helping to cut absenteeism in schools, offices and institutions. Introduce Trol-Dus to your customers now. Remember, it attacks dangerous germs right where they settle—on the floor.

USE TROL-DUS TO CONTROL DUST

Write today for complete information, a price list and free sample.

FULD BROS., Inc.

702 South Wolfe St.
Baltimore 31, Md.

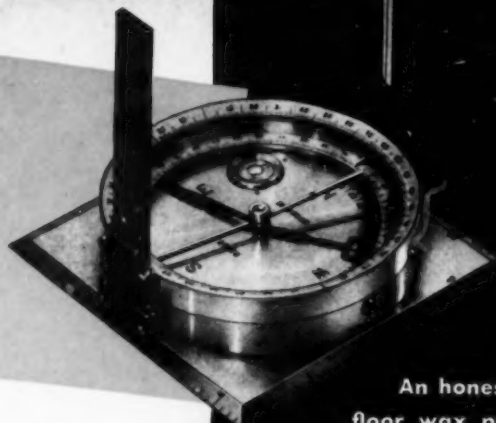
Los Angeles
Calif.

Manufacturers of Sanitary Maintenance Chemicals

FEBRUARY, 1951

A GUIDE

TO WAX PRODUCTS PURCHASING FOR PRIVATE BRAND RESALE



SELF POLISHING WAXES

Candy's Supreme—Candy's Supreme Special AS

Candy's DeLuxe—Bright Beauty

Four floor waxes that are all-around top quality for any given traffic condition. Each imparts the finest protection and beauty to floors for which they are best suited.

Bright Beauty FLOOR CLEANER

An outstanding material for removing even the heaviest wax film and dirt...Brings neglected floors "back to normal." The right cleaning agent to insure the most efficient floor maintenance.

Bright Beauty CREAM FURNITURE POLISH

A cream furniture polish that spreads easily, polishes without excessive effort and imparts a deep impressive lustre. Too, it permits repeated repolishing with a dry cloth saving reapplications time and again; truly a very economical polish of very highest quality.

Bright Beauty PASTE WAX

A paste wax that is properly blended and refined from excellent quality solids and solvents that produce the best drying time and thorough evaporation. A wax that is easy to handle, having "creamy" consistency and stability throughout its stocking and usage period.

Bright Beauty LIQUID (spirit) PREPARED WAXES

Complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each its own "Drv-Cleaner," they keep a surface waxed with a superb protective coating necessary to many difficult surfaces such as certain floors (where adaptable), bars, wallpaper, etc.

Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH

As a Glass Cleaner (pink color) it applies evenly with little effort, wipes off easily with negligible "powdering" and produces an undeniable "feel" of cleanness to glass that is actually true in fact. Different in color only as Silver polish, it imparts a highly desirable lustre to all silver without abrasion and can even correct the abuses of scratchy, "quick-polish" inferior products.

Bright Beauty DANCE FLOOR WAX

Basic advantages are freedom from "balling up," thus does not gather dirt and impregnate the floor with hard spots difficult to remove...also is free from dusty effects. Adds the protective quality to expensive ballroom floors that means more "floor-years" to users everywhere.

Bright Beauty Heavy Duty PASTE CLEANER

Really cleans and scours more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive quality, it frees almost every surface from all forms of foreign matter to perfection.

An honest appraisal of floor wax products as we see it is offered to guide wax buyers who want the best quality money can buy...

1. BEAUTY AND DURABILITY

should be considered together. Initial appearance is important, but for a waxed surface to remain beautiful it must be durable. Durability depends not only on resistance to the abrasion of traffic, but even more so on resistance to the collection of dirt and to discoloring traffic marks. Durability is really measured by how long the waxed surface maintains a nice appearance before the necessity of complete removal and re-waxing.

2. ANTI SLIP

qualities are necessary in a good wax as a matter of safety underfoot. This important quality does not necessarily require the sacrifice of beauty and protection which are the foremost original reasons for the use of a wax. Look for the proper balance—a wax film which is not excessively slippery yet which is not tacky and does not excessively collect dirt.

3. WATER RESISTANCE

is important, particularly when considering the possibility of wet traffic and the necessity for frequent damp mopping for the purpose of removing surface dirt. Overdoing this quality means greater difficulty in applying multiple coats of wax and may seriously increase the difficulty in removal when complete cleaning and re-waxing is necessary. Water resistance is important, but so is the quality of removability.

4. SOLID CONTENT

when expressed in percentage is not nearly as important as the quality of the solid content. When considering good quality, 12% of solids answers most needs for good planned maintenance programs. Two applications of 12% will give better results than one of 18%. However, the more concentrated material is useful for some programs of maintenance and particularly on "washed-out" floors, etc. Over-waxing should be avoided so that periodic complete removal will not be too difficult.

5. CARNAUBA WAX

is still the most important basic ingredient in our floor waxes. When refined and compounded with other important ingredients and "KNOW HOW," it aids materially in producing the most important features of a good floor wax...ALL AROUND QUALITY OF PERFORMANCE.

● ALL AVAILABLE FOR PRIVATE BRAND ONLY

We do not compete with our jobbers for consumer sales.
We sell only to distributors, except for experimental accounts in Chicago essential to research.

Wax Specialists for over 55 years
Candy & Company, Inc.
2515 W. 35th ST., CHICAGO

SOAP

Volume XXVII

Number 2

February 1951

and SANITARY CHEMICALS

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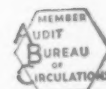
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Want a Best Seller ?...

A HAPPY BLENDING of fragrance for your product might well produce an outstanding *sales* success story. Do what America's leading manufacturers have done—consult with Naugatuck Aromatics. You'll find a perfect combination of skill, experience and resources to help you with any perfuming problem.

Our chemists and perfumers can show you how to re-odor numerous types of manufactured items. They can help you add a neutral tone to almost any finished product. Or they can blend the one, distinctive fragrance that will help your product become a *best seller*.

Write, or call us—soon!

NAUGAROMES—For various industrial and commercial uses.

SOAPOLS—For bar, paste and liquid soaps.

SHAMPAROMES—For liquid, cream and paste shampoos.

MODERN BASES—For fine perfumes, colognes, toilet waters, toilet preparations, etc.

CREAMODOORS—For all types of creams and lotions.

NAUGATUCK AROMATICS

DIVISION OF UNITED STATES RUBBER COMPANY

254 Fourth Avenue, New York 10, N. Y. — 701 South La Salle Street, Chicago 5, Ill.

Toronto — Montreal

Sole Distributors for:




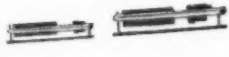



BRUNO COURT, S. A., GRASSE, FRANCE

MANUFACTURERS OF AROMATIC CHEMICALS—IMPORTERS OF ESSENTIAL OILS



ADVANTAGES OF FILTROL ADSORBENTS


1. Higher Decolorizing Power resulting in:

- a. Higher decolorized oil yields. 
- b. Less adsorbent required to attain a given decolorized oil color. 
- c. Savings in adsorbent freight costs. 
- d. Smaller filter press capacity requirements. 
- e. Less spent cake to dispose of. 
- f. Lower adsorbent handling costs - smaller storage space required. 
- g. Lower labor costs for dressing and dumping filter presses. 

2. Faster Filtration



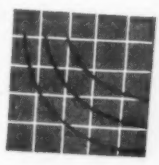
3. Greater Uniformity



4. Greater Purity



5. Ability to decolorize many dark oils and fats to acceptable color levels which cannot be obtained with other competitive adsorbents.



Filtrol CORPORATION

® T. M. REG. U. S. PAT. OFF.

WORLD'S LARGEST MANUFACTURERS OF ADSORBENTS, CATALYSTS AND DESICCANTS
General Offices: 727 West Seventh Street, Los Angeles 17, California
Plants: Vernon, California; Salt Lake City, Utah



"high-light" Kreelon is sales-tested

What do we mean "sales-tested"?

Just this. Before Wyandotte "high-light" Kreelon* leaves our plant, it is given a 3-way detergency test. We not only test Kreelon on an "as-is" basis, but also as a "built" product. We test Kreelon not only for soil removal and whiteness retention, but also for promotability with Carbose (Sodium CMC).

Result? When you buy Kreelon, you get a product that you *know* will perform — built or unbuilt. You get a product that's white in color — clear in solution. Yes, you get a product that keeps its foot in customers' doors.

*Reg. U. S. Pat. Off.

SODA ASH • CAUSTIC SODA • BICARBONATE OF SODA
CALCIUM CARBONATE • CALCIUM CHLORIDE • CHLORINE
HYDROGEN • DRY ICE • SYNTHETIC DETERGENTS • GLYCOLS
CARBOSE (Sodium CMC) • ETHYLENE DICHLORIDE • PROPYLENE
DICHLORIDE • AROMATIC SULFONIC ACID DERIVATIVES
OTHER ORGANIC AND INORGANIC CHEMICALS

WYANDOTTE CHEMICALS CORPORATION
Wyandotte, Michigan • Offices in Principal Cities



Wyandotte
REG. U. S. PAT. OFF.

SOAP and SANITARY CHEMICALS

Packed with
salesmaking features!

SNOAP

NO SOAP...and No soap scum

cleaning powder...

The Sudsy—All Purpose
No Rinsing

CLEANS
all these
BETTER

New Cleaning Agent

- Chases slippery soap film

New Wetting Agent

- Cuts grease—wets out dirt

Snoop Dissolves

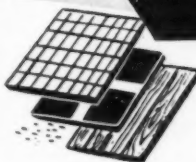
- a super-abundance of suds the moment it strikes water

Easy on Hands...

- No harmful solvents

SNOAP FOR FLOORS

Cleans tile, terrazzo, marble, linoleum and composition floors. Rinses freely.



WALLS

SNOAP cleans 'em without elbow grease. No calcium residue to remove. SNOAP forms no curds.



AUTOMOBILES

...they're washing their cars more easily these days — with a fistful of SNOAP in a pail of water, and no soapy film to wipe off.



MAKES MIRRORS SHINE.
Does a brilliant job on plate-glass too.



SNOAP — for washing dishes by hand... water soft as dew. No cloudy film. Glasses sparkle like crystal — without wiping!



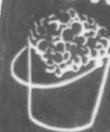
WINDOW WASHERS' DELIGHT. Swish on SNOAP. Rub on cloth... next window please!



ANY ICE BOXES TO CLEAN? SNOAP in cold water pretties them up for the inspector.



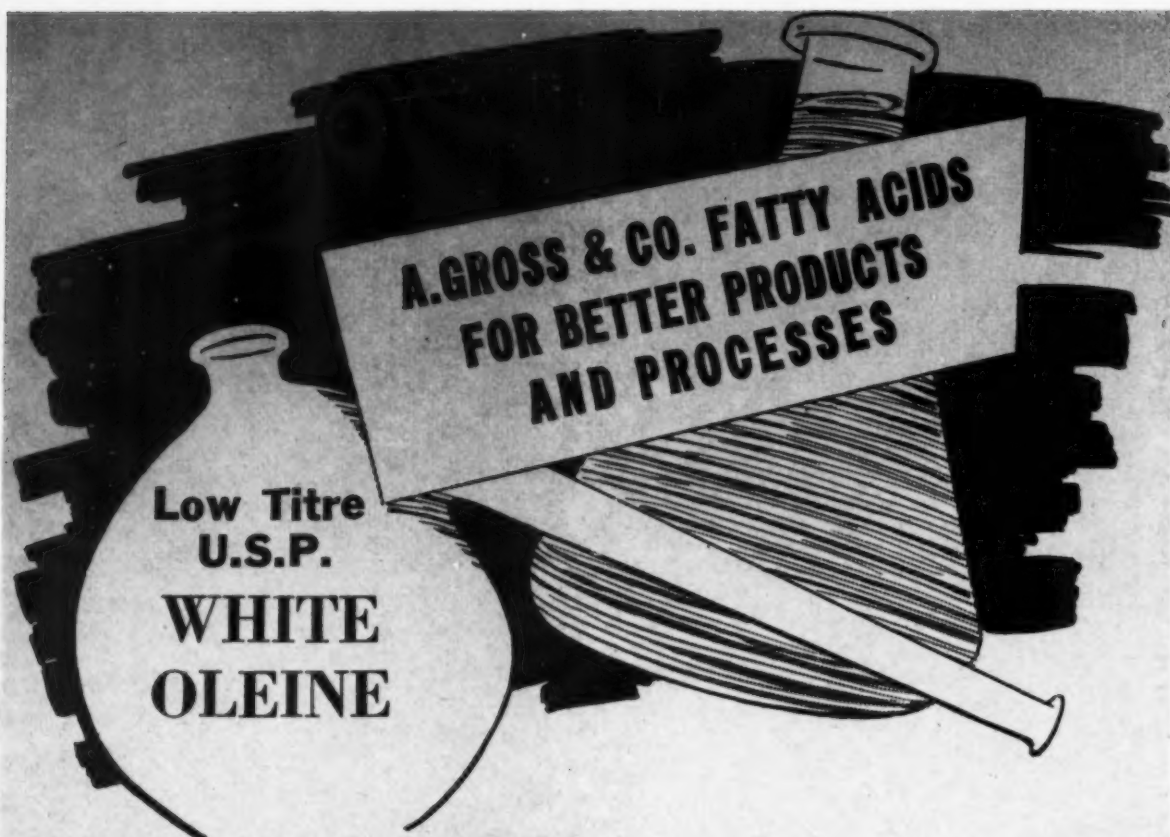
Can such things BE?



Drop a cupful in a pail. Turn on the water—hot or cold, hard or soft... YOU NEVER SAW SUCH RICH CREAMY SUDS!

Hysan

HYSAN PRODUCTS COMPANY • 932 W. 38th Place • CHICAGO 9



SPECIFICATIONS

Groco 8 — White Oleine U. S. P.

Titre	4° — 7°C.
Cloud Point	39° — 45°F.
Color Lovibond 5½" Red.....	1.0 — 2.0
Color Lovibond 5½" Yellow....	8 — 12
Unsaponifiable %	1.5% max.
Saponification Value	188 — 201
Acid Value	187 — 200
% F. F. A. as Oleic Acid.....	99.0 — 100.0
Iodine Value (WISS).....	89 — 92

THIS low titre White Oleine (U.S.P. Oleic Acid) is a multiple distilled product made entirely from selected animal fats. A Gross & Company's modern distillation process yields a White Oleine superior in color, stability and free fatty acid content. *Write today for samples and also our new booklet, "Fatty Acids in Modern Industry."*

DISTRIBUTORS: *George Mann & Co., Inc., Providence 3, R. I.; J. W. Stark Co., Detroit 2, Mich.; Charles Albert Smith, Ltd., Toronto 3, Canada; Braun-Knecht-Heimann Co., San Francisco 19, Calif.; Thompson Hayward Chemical Co., Kansas City 3, Mo. (and branches); Smead & Small, Inc., Cleveland 15, O.; James O. Meyers & Sons, Buffalo, N. Y.; J. C. Ackerman Co., Pittsburgh, Pa.; Baker Industrial Oils Co., Philadelphia 7, Pa.; Moreland Chemical Co., Spartanburg, S. C.; Southern Industrial Sales Corp., Tuscaloosa, Ala.; Braun Corp., Los Angeles 21, Calif.*





Now -- shiny, safe floors
all year 'round with - -

SUPER SAFE CETOX

Hydraoxated carnauba floor wax
- - It's all-weather-slip-proof!

Come rain or shine, radically new SUPER SAFE CETOX gives genuine security underfoot on dazzling, beautiful floors.

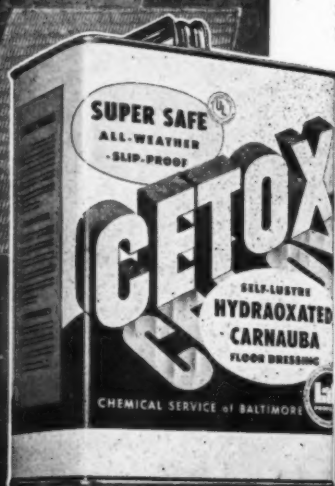
Super safe—even in inclement weather

Here's important protection all year long—especially throughout year's 30% inclement weather when the risk of slips and falls is greatest. Snow, sleet and rain tracked onto a waxed floor acts as a lubricant underfoot. SUPER SAFE CETOX ends this hazard. Foot traffic has solid, secure footing on a CETOX dressed floor . . . whether wetted or

dry. You can't slip on SUPER SAFE CETOX, because the slip is chemically *hydraoxated* out of the raw material carnauba. No silicas or abrasives added! It's super safe! Because it's hydraoxated!

More remarkable features

SUPER SAFE CETOX quickly dries into a smooth expanse of brilliant lustre. Self-lustre CETOX resists soil, wear, spilled water and frequent damp moppings. In every way CETOX is superior! Send for sample and sales data on this nationally advertised profit-maker. Do it now!



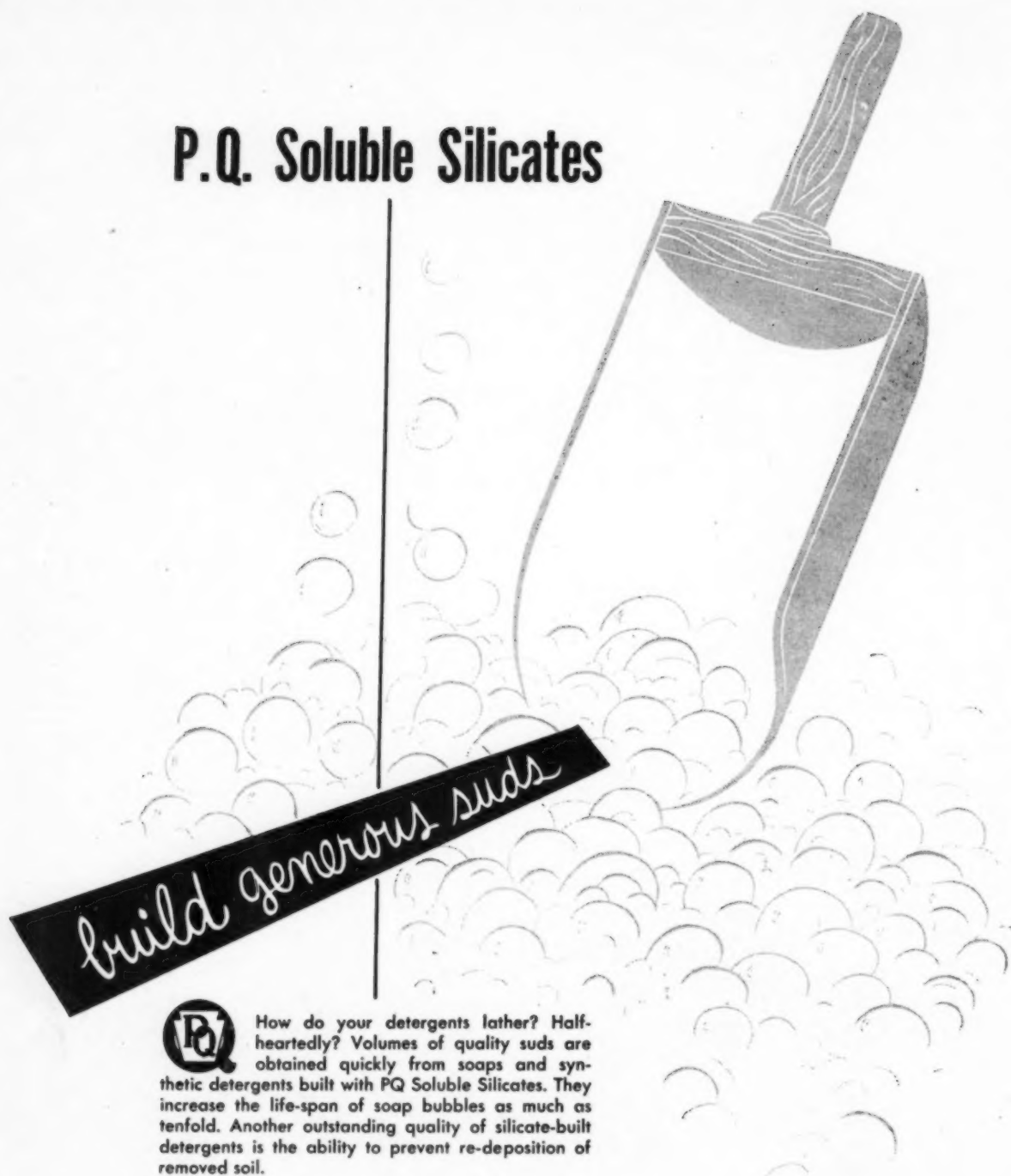
SUPER SAFE, RAIN OR SHINE

Listed anti-slip floor treatment material
by Underwriters' Laboratories, Inc.

Chemical Service of Baltimore

HOWARD & WEST STS. ★ BALTIMORE 30, MD.

P.Q. Soluble Silicates



How do your detergents lather? Half-heartedly? Volumes of quality suds are obtained quickly from soaps and synthetic detergents built with PQ Soluble Silicates. They increase the life-span of soap bubbles as much as tenfold. Another outstanding quality of silicate-built detergents is the ability to prevent re-deposition of removed soil.

Here is a group of dependable, thrifty allies for your soaps, synthetics and alkaline cleaners. (Over 50 products in the PQ line ranging from $3\text{Na}_2\text{O}$, 2SiO_2 to Na_2O , 3.75SiO_2). Write for more information on the advantages obtained from using PQ Soluble Silicates in modern soaps and detergents.

PHILADELPHIA QUARTZ COMPANY

1152 PUBLIC LEDGER BUILDING
PHILADELPHIA 6, PENNSYLVANIA

P. Q. SOLUBLE SILICATES



SOAP



SHAVING CREAM



SHAMPOOS

FACIAL CREAMS



DREW FRACTIONATED DISTILLED COCONUT FATTY ACIDS

AB FRACTIONATED DISTILLED

AB is more than a distilled fatty acid, it is also fractionated to improve color, odor and composition. At least 90% of the low fractions (caproic, caprylic and capric) have been removed to minimize the "bite" inherent in coconut fatty acids, to improve odor, and to give greater soap value. AB has excellent, long-lasting color stability and a relatively low degree of unsaturation.

ABH FRACTIONATED DISTILLED

Whenever greater stability in finished products containing coconut fatty acids is required, ABH is ideal. It is hydrogenated to lower its percent of unsaturated acids, and fractionally distilled to remove the greater portion of caprylic and capric acids—the least desired in many shampoo and cosmetic preparations.

AVERAGE SPECIFICATIONS

PRODUCT	CAPRYLIC (Ca)	CAPRIC (Ca)	LAURIC (Ca)	MYRISTIC (Ca)	PALMITIC (Ca)	STEARIC (Ca)	OLEIC (Ca)	LINOLEIC (Ca)
AB	1.0%	3.0%	60.0%	18.0%	7.0%	1.0%	7.0%	3.0%
ABH	1.0%	3.0%	60.0%	18.0%	7.0%	8.0%	3.0%	

PRODUCT	FFA	TITRE°C	IODINE VALUE	ACID VALUE	SAP. VALUE	COLOR
AB	126-132	24-28	8-16	250.6-262.5	250.6-262.5	20.0/3.0
ABH	126-132	29	3.0 Max.	250.6-262.5	250.6-262.5	15.0/2.0

DISTILLED AND FRACTIONATED FATTY ACIDS

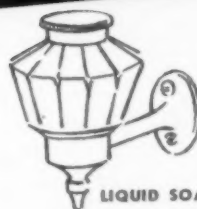
SOYA SAFFLOWER COCONUT LINSEED LAURIC OLEIC COTTONSEED CAPRIC STEARIC CAPRYLIC VRO



WETTING AGENTS



COSMETICS



LIQUID SOAPS



DETERGENTS

TECHNICAL PRODUCTS DIVISION

E. F. DREW & CO., Inc.

15 EAST 26th STREET, NEW YORK 10, N. Y.

CHICAGO

PHILADELPHIA

BOSTON

Write for reference booklet, "DREW Fatty Acids"



WHY PAY HIGH PRICES FOR ESSENTIAL OILS?

change to...

JAVONELLA

PERFECT FOR PERFUMING...

- LAUNDRY SOAPS
- WASHING POWDERS
- LIQUID CLEANSERS
- POLISHES, ETC.

NOW, MORE THAN EVER, JAVONELLA OFFERS THESE IMPORTANT ADVANTAGES!

*Write for
Sample and
Quotation*

- It's a manufactured article . . . free from the price fluctuations of natural essential oils such as Citronella, Sassafras, etc.
- Its high quality never varies, enabling you to manufacture uniformly dependable products.
- Always lower in cost than the natural oils, particularly now with citronella prices on the rise, its use results in production economies and higher profits without lowering quality standards.



AROMATICS

PERFUME BASES

ESSENTIAL OILS

FELTON CHEMICAL COMPANY, INC.
599 Johnson Ave., Brooklyn 6, N. Y.

PLANTS: BROOKLYN, N. Y. • LOS ANGELES, CAL. • MONTREAL, QUE. • PARIS, FRANCE
SALES OFFICES: ATLANTA • BOSTON • CHICAGO • DALLAS • PHILADELPHIA
ST. LOUIS • TOLEDO • TORONTO
STOCKS CARRIED IN PRINCIPAL CITIES

SOAP and SANITARY CHEMICALS

industrial alcohol

CSC

COMMERCIAL SOLVENTS CORPORATION

pure • denatured
specifications • regulations • data

There are over 100 pages of facts,
figures, conversion tables, specifications
and regulations on industrial alcohol
— pure and denatured. If you have not
already received your copy write for one
on your company letterhead.

CSC

COMMERCIAL SOLVENTS CORPORATION • 17 EAST 42nd STREET, NEW YORK 17, N. Y.



HARDESTY STEARIC ACID

1225

Measures up on every count

Here is a commercial Stearic Acid specially developed to meet the most exacting needs of manufacturers of high quality products in which purity, stability, odor, color and uniformity are essentials. Produced under a new process developed by W. C. Hardesty Co., Inc., Stearic Acid #1225 represents a distinct advance in the fatty acid field.

If you are interested in improving the quality of your end product, whether it be cosmetics, soaps, creams, esters, stearates or other compounds requiring Stearic Acid, it will pay you to make a note of these superior Stearic Acid #1225 qualities.

BLAND ODOR AND ODOR STABILITY

Cosmetics made from #1225 Stearic Acid are free from reversion or masking of the odor imparted by fine perfumes. Esters made from #1225 Stearic Acid are extremely bland in odor with excellent final color.

HIGHEST PURITY

Virtually free from unsaponifiable matter and mineral ash due to special new process of manufacture.

LOW CONTENT OF UNSATURATED FATTY ACID

is indicated by extremely low iodine value and means a saturated fatty acid content of 98% to 100%.

LIGHTNESS OF COLOR AND EXCELLENT COLOR STABILITY

In manufacture of Esters, Soaps, Creams and other compounds, #1225 Stearic Acid shows a maximum resistance to darkening.

SPECIFICATIONS

Titre (130-132°F)	54.5 — 55.3°C
Color 5—1/4" Lovibond Column (max)	2 Yellow — 0.2 Red
Iodine Value (Wij's)	0.5 — 1.5
Free Fatty Acid (as oleic)	103 — 105%
Acid Number	205 — 209
Saponification Value	206 — 210

FACTORIES: DOVER, OHIO TORONTO, CAN.





paper sculpture by goretta-egan

quality...and service

come first at Niagara. Whether you order one

drum or many, you get the same dependable
high quality and purity of product.

EBG* Liquid Chlorine

NIALK* Caustic Potash

NIALK Carbonate of Potash

NIALK Paradichlorobenzene

NIALK Caustic Soda

NIALK TRICHLORethylene

NIAGATHAL*
(Tetrachloro Phthalic Anhydride)

*Trade-mark



NIAGARA ALKALI COMPANY

60 East 42nd Street, New York 17, New York

Choice Fragrances

...FROM A CHEMIST'S "GARDEN"



Chemical Research works many miracles in simulating Nature. From Verona's laboratories, for example, come pure, stable and lasting aromatic chemicals that realistically reproduce the appealing fragrances of garden flowers in bloom. Verona perfume and cosmetic specialties are as *carefully cultivated* as the choicest flowers to add fresh notes of distinction to *your* products.

SOLE AGENT IN THE U.S.A. FOR J. & E. SOZIO, GRASSE, FRANCE

VERONA SPECIALTIES:

AMUSKAL	OPOPONAX AMBRE E-392
AMBRE 342	IONONES
ALDEHYDE E-317A	CYCLAMAL

RESINOIDES:

MOUSSE DE CHENE ABSOLUTE	STYRAX
OLIBANUM	TOLU
OPOPONAX	MOUSSE DE CHENE BRUT

VERONA CHEMICAL COMPANY, 26 VERONA AVE., NEWARK, N. J.

AROMATICS **VERONA** DIVISION



Background for better detergents

More than a billion pounds of household and industrial cleaning compounds have been produced with synthetic detergent materials made by Oronite.

This broad acceptance is proof of the high regard which leading compounders, processors and end-users hold for Oronite products. Large-scale production facilities and experience provide Oronite the background for better detergents and make Oronite a most important source of supply.



THE NAME TO WATCH IN CHEMICALS

*A partial list of
other Oronite Chemicals*

NOTICE

Some of the following are
currently in short supply.

Detergent Alkane
Detergent Slurry
Detergent D-40
Detergent D-60
Wetting Agents
Lubricating Oil Additives
Cresylic Acids
Gas Odorants
Polybutenes
Sodium Sulfonates
Purified Sulfonate
Naphthenic Acids
Phthalic Anhydride
Ortho, Para Xylenes
Xylol
Aliphatic Acid
Hydroformer Catalyst

THESE EXTREMELY VERSATILE SYNTHETIC
DETERGENTS FIND A WIDE VARIETY OF
USES THROUGHOUT INDUSTRY

Four Examples:

1. FOOD AND VEGETABLE PROCESSING

A tremendous aid in washing, peeling and processing fruits and vegetables before canning or freezing. Improves their marketability and aids in the removal of dirt, insecticide and fertilizer residue.



2. UPHOLSTERING AND RUG CLEANING

These detergent products find widespread use in plant or "on-location" cleaning of rugs, carpets and upholstery. Excellent foaming qualities, easy rinsing and high efficiency in cleaning greasy type soil make them ideal for this purpose. Use them straight or in special compounds depending upon type of application.



3. CLEANING AND WASHING COMPOUNDS

Oronite supplies tremendous quantities of synthetic detergent materials to processors and compounders of packaged cleaners for all household and industrial uses.



4. TRANSPORTATION EQUIPMENT WASHING

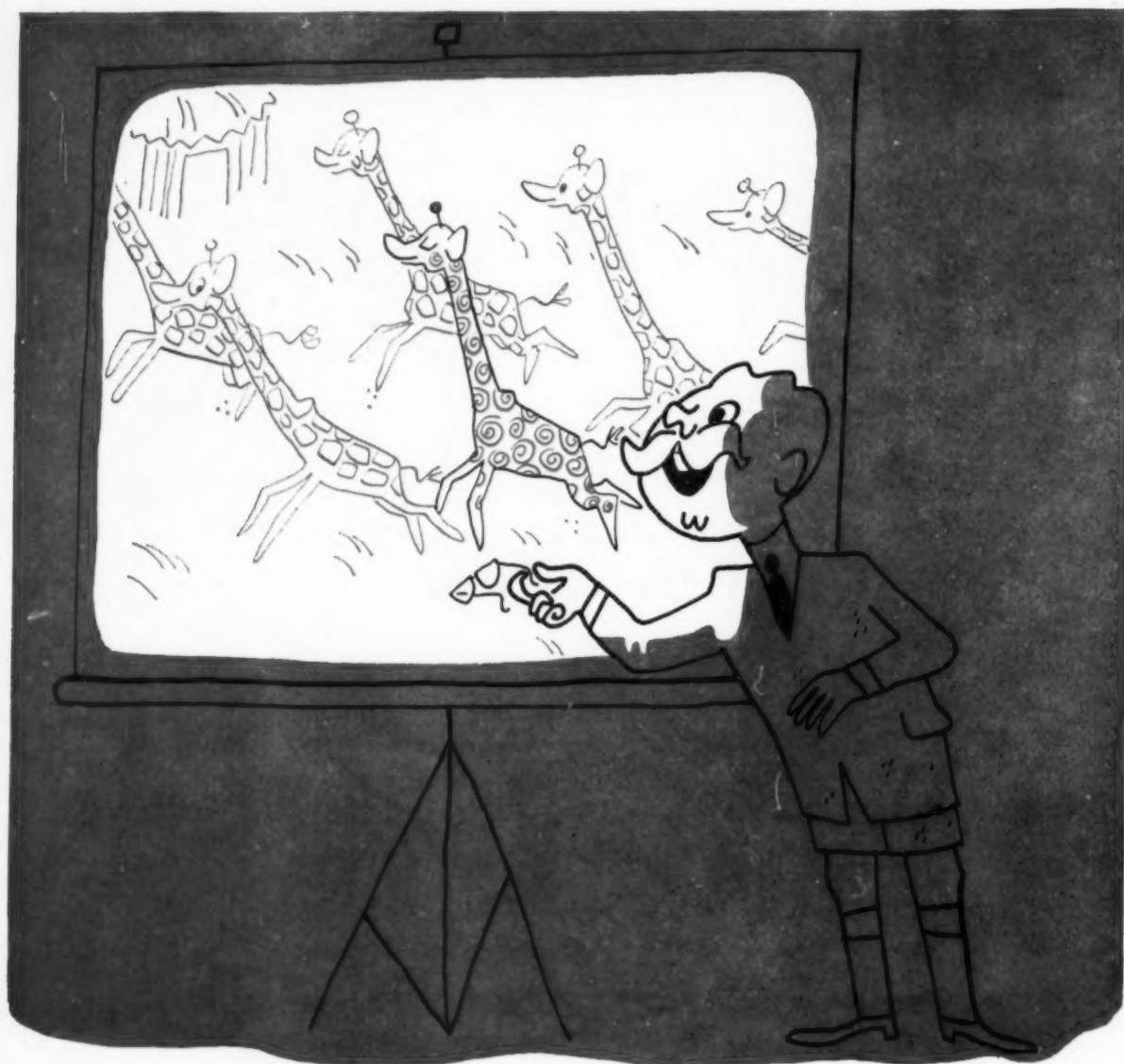
Because of its fast action, quick rinsability and high detergency, Oronite D-40, either alone or in compounds, cuts cleaning and maintenance costs on trucks, trains, busses, passenger cars and other types of rolling stock.



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LINSEED											
Water White	X	X	X								
Regular	X	X	X	X	X	X		X			
SM-500	X	X	X	X	X	X		X			
SM-600	X	X	X	X	X	X		X			
Essential Unsaturated Free Fatty Acids											X
SOYA											
Water White	X	X	X								
Regular	X	X	X	X	X	X		X			
RO-4	X	X	X	X	X	X		X			
RO-10	X	X	X	X	X	X		X			
RO-11S	X	X	X	X	X	X		X			
MIXED VEGETABLE											
RO-8	X	X		X	X	X	X	X			
CORN-SOYA Double- Distilled				X	X	X	X	X			
CORN Double- Distilled				X	X	X	X	X			
COTTONSEED Double- Distilled	X			X	X	X	X	X			
COCONUT Double- Distilled	X				X		X		X		
CHINAWOOD	X	X	X								

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DRYORTH*

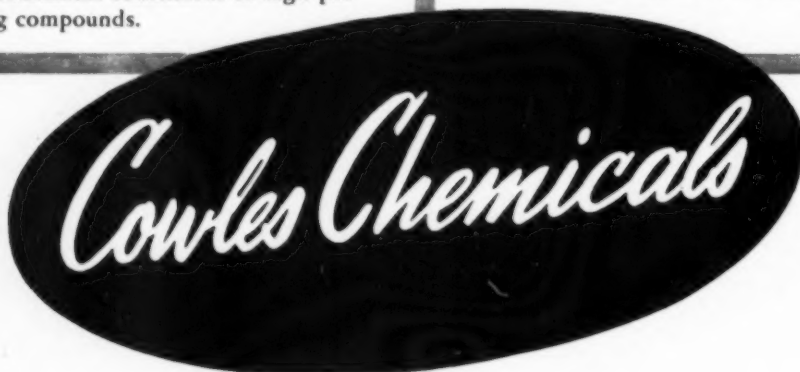
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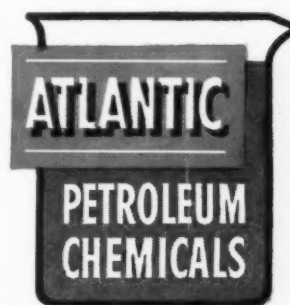
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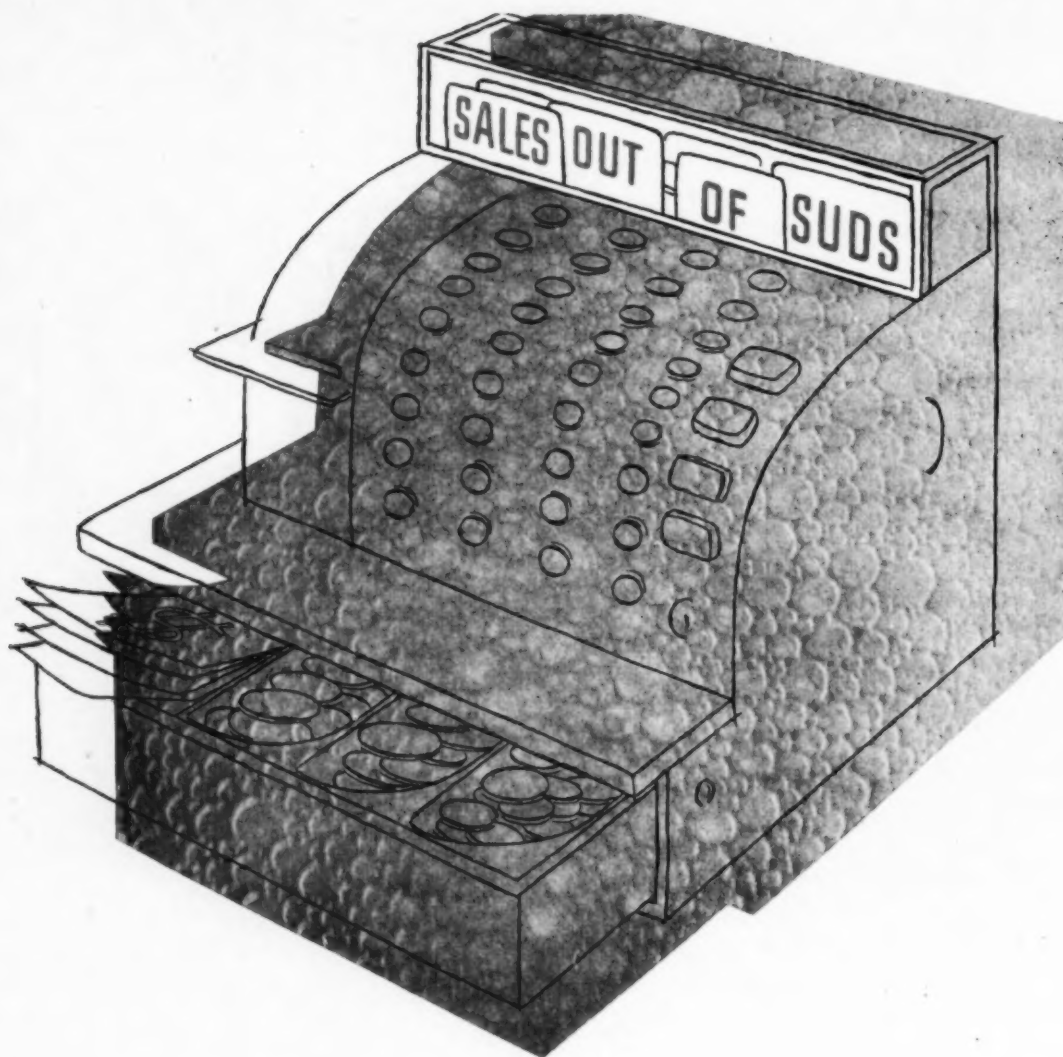
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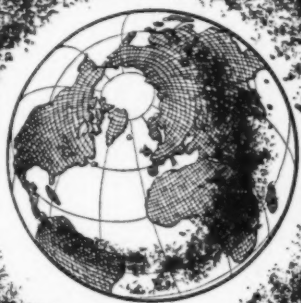
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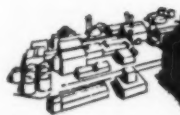
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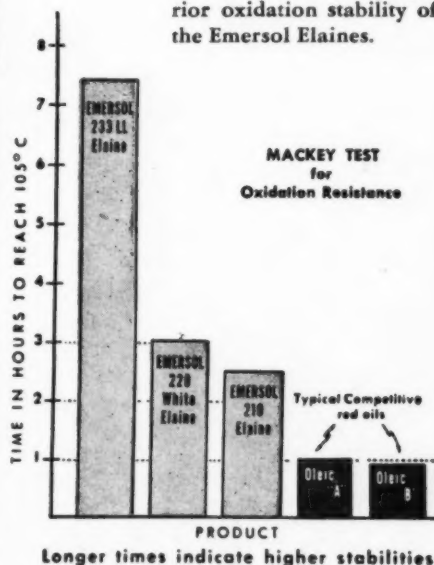
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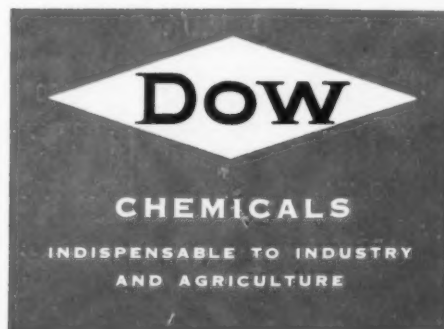
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SYNTHETIC DETERGENTS

by John W. McCutcheon

445 PAGES

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CONTENTS

Chapter 1 — INTRODUCTION — Development of surface active agents, particularly synthetic detergents.

Chapter 2 — FUNDAMENTALS OF SURFACE ACTIVITY — Nature of forces at surfaces, relation of surface activity with emulsification, foaming, detergency, etc.

Chapter 3 — EVALUATION METHODS AND ANALYTICAL EXAMINATION OF DETERGENTS — Various, analytical tests are described, as well as tests for handling and purchasing.

Chapter 4 — EXAMINATION OF SURFACE ACTIVE AGENTS AND SYNTHETIC DETERGENTS BY CLASS AND TYPE — Discussion of each class with regard to chief types, characteristics, and future utility.

Chapter 5 — MANUFACTURING PROCESSES AND RAW MATERIALS — Technique involved in the manufacture of a number of typical classes of surfactants is given. Source and preparation of raw materials is included also.

Chapter 6 — TRADE NAMES PRODUCTS AND PROCESSES — Nomenclature of commercial products, by composition, form or other characteristics.

Chapter 7 — APPLICATION AND USE — Formulas and uses included cover the textile industry, leather and fur industry, paper industry, dairy and food industry, laundry, household cleaners, insecticides, etc.

APPENDIX — List of 700 surfactants, classification of surfactants, A.O.C.S. analytical methods.

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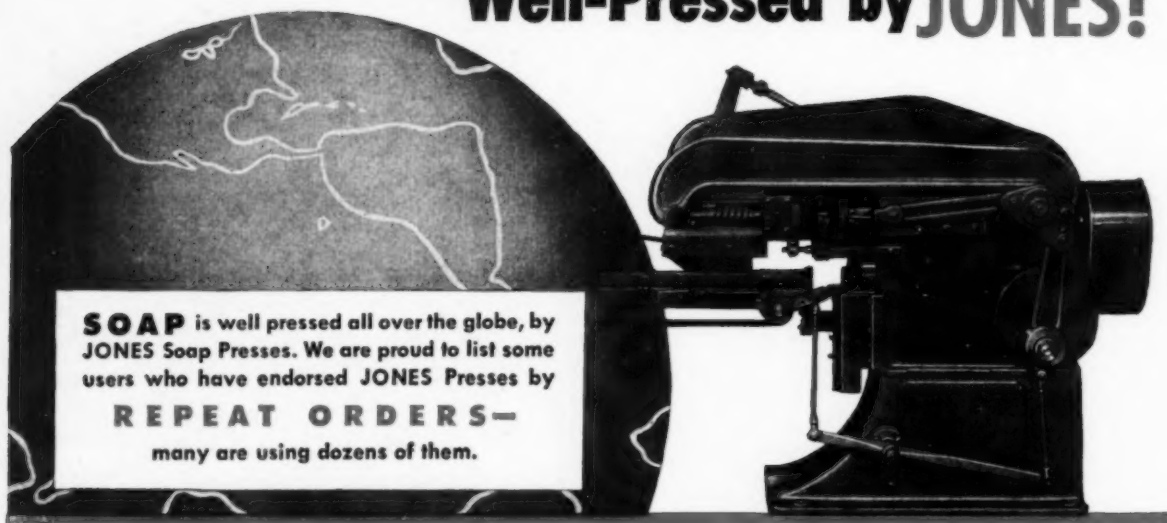
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QUALITY PRODUCTS (PTY.), LIMITED
W. T. RAWLEIGH CO.
RHODESIAN INDUSTRIES CO., LTD.
RIT PRODUCTS COMPANY
ROGER & GALLETT
I. ROKEACH & SONS, INC.
SALVADOR ALVAREZ
SAVONNERIE PARFUMERIE DUBOIS FILS
A. SAVY, JEANJEAN & CIE.
SCOTTISH CO-OPERATIVE WHOLESALE SOC., LTD.
STAHL SOAP CORPORATION
JOHN T. STANLEY CO., INC.
THE SWASTIK OIL MILLS, LIMITED
SWIFT & COMPANY
TATA INCORPORATED
THE J. R. WATKINS COMPANY
J. B. WILLIAMS CO.
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Cartoning Machines—Soap Presses

**P. O. BOX 485
CINCINNATI, OHIO**

THE wave of panic buying of soaps and particularly synthetic detergents that was set off early last month by talk of price controls, rationing, etc., was the second to be experienced by the industry this year. Back in July, with the beginning of our participation in the fighting in Korea, housewives remembering what had happened in World War II began building their supplies of soaps and detergents against the day of rationing.

The reaction of the housewife to government control, as exemplified by these waves of panic buying, speaks volumes. Would that the planners in Washington would lend a sympathetic ear. Left to their experienced handling of production and distribution of soaps and detergents, manufacturers could probably bring to the consumer sufficient quantities of their products and at prices commensurate with raw material costs. This is the normal procedure. But let an emergency arise, and regardless of the raw material supply situation, the bungling hand of big government moves into the picture, bringing with it confusion and consternation.



THE position of the soap industry as the country moves back into a period of price controls does not seem to be particularly favorable. While some soap manufacturers seem, for the moment at least, to have beaten the price "freeze" with a mid-January advance in prices of approximately six per cent, others have been caught with their prices down, and face the prospect of being forced to operate at price levels which are unrealistic in relation to their raw material costs. The hard fact is that with tallow jumping from five to eighteen cents a pound over the second half of 1950, many soap makers simply did not advance their selling prices fast enough.

And with raw material cost such an important part of the soap maker's total product cost, this situation could be disastrous if relief is not forthcoming.

Another factor in the situation which carries further threat of trouble for the soap maker is that prices of a number of important imported soap making fats and oils, including coconut oil, olive, palm, palm kernel, babassu, etc., have been specifically exempted from price ceilings. The purpose of the exemption, of course, is to avoid endangering supplies, and with this purpose the industry will have no quarrel. It should be clear to the new batch of Washington planners, however, that no industry can operate with controls on its selling prices, while costs of its raw materials are allowed to find their own levels. One control always begets another, and this particular situation is one where further controls may necessarily follow.

Certainly the problems of the soap industry under the new price control set-up are such as to demand early attention.



THREE Gillette Bills, Senate Bills 343, 344 and 345, those which attracted such wide and unfavorable attention among manufacturers and marketers of soaps, detergents and cleansers last year, have been reintroduced in the current session of Congress. The bills call for a label statement of ingredients with percentages of soap or other detergent present, inclusion of soaps under the Food, Drug & Cosmetic Act, and other requirements of varied and sundry types. Bills 343 and 345 are amendments to the Food, Drug & Cosmetic Act. Soap is brought under this act simply by striking out the present exemption which as we know specifically excludes soap. Bill

344 is proposed as a separate law to regulate household cleansers which are defined as any product in containers suitable for household use "for washing, cleansing, deodorizing, renovating, bleaching, or polishing."

Reintroduction of these bills by Senator Guy M. Gillette of Iowa was no surprise. The bills are essentially the same as their predecessors. The objections to them likewise are essentially the same. In the fundamental public interest, not the slightest need for this legislation exists. That the public would understand or appreciate the significance of required ingredient statements is unlikely. That a past history of marketing of soaps, detergents and cleansers would not warrant serious consideration of such legislation is evident to those familiar with the facts. Then, what's behind it?

As a parting touch, it is timely to tell the small manufacturers to brace their feet once again. As usual, they will be the ones hardest hit—not the large fellows. All of which, of course, is right in line with this mush which still comes out of Washington about protecting the interests of the small business man.



THE formula of the detergent which was held responsible for the deaths of several infants in Chicago a few months ago recently was revealed to include tetrasodium pyrophosphate, sodium polyphosphate, sodium sesquicarbonate, soda ash, a well-known synthetic detergent base, and borax. The conclusion of the coroner's jury which reviewed the evidence submitted was that death was due to boron poisoning. And the jury recommended that a poison label with skull-and-crossbones be required thereafter on such detergent compositions.

Conspicuous by its absence in the findings of this jury was any reference to a possible gross misuse of a solution of the product in question. That such might have been introduced by error in some manner in the infants' food apparently was not deemed worthy of consideration. The assumption seemed to be that the product was used properly, but that the danger arose from its composition—an all too common assumption on

the part of many persons, notably some public officials.

In our humble opinion, improper rinsing or even no rinsing at all in the case of a detergent of this composition could not leave a sufficient residue of salts, of which the boron salt obviously must have been in small proportion, to have brought death to the infants. Humans at fault in serious accidents are prone to cover up their mistakes by lying, thus sending investigators scurrying along the wrong track. So, if legislators, city, state or otherwise, get any ideas about poison labeling of detergents, we hopefully suggest that they take these coroner's jury recommendations with a sizable grain of salt. We feel that the recommendations are wholly incompetent.



A TWO to three billion pound annual market for synthetic detergents within the foreseeable future is a reasonable expectation, according to a speaker at the recent soap industry meeting. In fact, said the speaker, at its present rapid rate of development, if there had been no problem with raw material supplies the two billion pound rate of production annually could have been reached in 1952.

The speaker, L. F. Flett of National Aniline Div. of Allied Chemical & Dye Corp., talks with considerable authority, since it was he, who back in 1947, when synthetic detergents were just beginning to be factors in the soap and detergent industry, predicted an annual production rate of a billion pounds for synthetics. This figure has now risen to a billion and a quarter pounds, with further upward revision likely in view of new and greatly expanded production facilities being announced by major soap and synthetic detergent producers.

The effect on soap consumption and production of the growth of synthetics has not been as detrimental as was once thought it might be. In fact, according to Mr. Flett, in spite of the growth of synthetics, the soap market, as measured by annual consumption of fats and oils at the soap kettle, has not shown a trend which could be interpreted as permanently downward.

Soap Industry Meets...

A PREDICTION that annual production of synthetic detergents would reach two to three billion pounds within the foreseeable future, a study of trends in the soap industry since Korea and the reelection of all officers and the naming of four new directors were among the highlights of the 24th annual convention of the Association of American Soap & Glycerine Producers, held at the Hotel Plaza, New York, Jan. 31 and Feb. 1.

With registration put at over 650, the 1951 meeting was the largest in the history of the soap industry.

Reelected to serve for a second term as president, but unable to attend the meeting because he was on a business trip in the Philippine Islands, was Neil H. McElroy, president of Procter & Gamble Co., Cincinnati. Other officers reelected for 1951 are: vice-president for the east, E. H. Little of Colgate-Palmolive-Peet Co., Jersey City, N. J.; vice-president for the mid-west, E. W. Wilson of Armour & Co., Chicago; vice-president for the far west, E. M. Finehour, Los Angeles Soap Co., Los Angeles; treasurer, Nils S. Dahl, John T. Stanley Co., New York; assistant treasurer, Henry F. Elberfeld, Colgate-Palmolive-Peet Co., Jersey City, N. J., and secretary, association manager Roy W. Peet.

New board members include A. W. Schubert of Emery Industries, Inc., Cincinnati; E. M. Maxwell, National Aniline Division, Allied Chemical & Dye Corp., New York; Leonard J. Oppenheimer, West Disinfecting Co., Long Island City, N. Y.; and Jervis J. Babb, Lever Brothers Co., New York.

The board is now composed of, in addition to the officers and newly elected directors listed above: H. Dock, M. Werk Co., Cincinnati; Selden Humphreys, Tennessee Soap Co., Memphis; E. A. Moss, Swift & Co., Chicago; A. G. Peck, Peck's Products Co., St. Louis; E. J. Sella, Great Stuff

Studies its future in the emergency. McElroy re-elected president at 24th meeting. Synthetic detergent output may reach three billion pound mark.

Products Co., West New York, N. J., and George A. Wrisley of Allen B. Wrisley Co., Chicago.

A. G. Peck was elected chairman of the Specialty Soap Division, A. W. Schubert chairman of the Glycerine Division and George Perkins of Perkins Soap Co., Springfield, Mass., and R. O. Trowbridge, Colgate-Palmolive-Peet Co., Jersey City, N. J., chairman and vice-chairman, respectively, of the Industrial Soap Division.

In his address of welcome and review of the year, E. W. Wilson of Armour & Co., mid-western vice-president, who was substituting for Mr. McElroy, pointed out that sales of soaps and synthetic detergents as tabulated by the Soap Association amounted to more than three and one-half billion pounds in 1950. The figure for the first half of the year was a little more than five percent greater than for the preceding year's first six months. In the second half of 1950 sales of soaps and synthetic detergents were 18 percent higher than in the final half of 1949.

The sharp increase in raw material costs, particularly for fats and oils, and price controls on finished products were the two most "challenging and disconcerting problems faced by the industry during the past year," Mr. Wilson said.

On the question of supplies, Mr. Wilson said that generally speaking the shortage of supplies is just beginning to "plague us," although the shortage of steel containers has been and will continue to be a problem.

The work of the various divisions and committees within the association was discussed by Mr. Wilson. He urged members to participate actively in their respective groups.

In outlining what lies ahead for the industry Mr. Wilson said that because our industrial machine is running at top speed some dislocations are bound to occur. He further stated: "There is no immediate evidence of shortages of any of our basic raw materials. However, new supplies of fats and oils are largely dependent upon the weather, which is unpredictable. We do not know the quantities we can expect from other countries, nor how much our Western Allies will require of us. We know too that other raw materials important to us such as benzene and alkalies have many other essential uses. At this moment an accurate supply and demand picture cannot be put together."

Soap Sales Trends

IN discussing household soap sales trends in grocery stores, P. J. Stomberg of A. C. Nielsen Co., Chicago, pointed out that while tonnage sales in grocery stores did not rise sharply after the outbreak of the Korean war, sales of soaps and other commodities scarce in World War II did increase appreciably. Synthetic detergent sales in the 12 months ending Aug.-Sept., 1950, accounted for about one-third of the total sales of soaps and detergents in terms of dollar volume and tonnage, as compared with about one-quarter in the corresponding period of the previous year.

Consumer sales of packaged laundry soaps and toilet soaps were above normal in August and September of 1950, according to Mr. Stomberg. These two items, and one other, which also showed above normal sales in the two months, were among 14 products, sales of which were watched

closely for the effects of the Korean war on prices.

In reviewing dollar sales of all soaps, including synthetic detergents since 1940, the speaker stated that:

Dollar sales showed a substantial expansion between 1940 and 1943 rising 54 per cent to an index of 154, small gains only in 1944 and 1945 when supplies were restricted and prices controlled, sharp increases in 1946 and 1947 after price control ended, and reached a peak in 1948 when dollar sales at an index of 261, were 161 per cent above 1940. Dollar sales dropped off 17 per cent in 1949 to a level that was 117 per cent above 1940 and then recovered slightly, up an estimated 2 per cent in 1950, with dollar sales estimated at a point 121 per cent above 1940.

Tonnage sales also rose steadily, although not as rapidly as dollars, between 1940 and 1943, from an index of 100 in 1940 to 120 in 1943. Thereafter tonnage sales, reflecting limited supplies, declined slowly until 1946 and 1947. Coincident with better supplies, tonnage sales increased 6 per cent in 1948 and virtually held in 1949 at that level. Tonnage sales in 1950 reached an all-time high, 5 per cent above 1949 and 26 per cent above 1940.

Comparing trends in soap sales with those of all commodities, it was shown that the two percent increase

in dollar sales of soaps in 1950, as against 1949, was almost equal to the four percent increase in all-commodity dollar sales and the changes on a tonnage basis also were similar: a plus five percent versus a plus two percent. Dollar sales of soaps show a considerably smaller increase from 1940—121 per cent—than do all commodities—176 percent. On a tonnage basis soap sales were up 26 percent, or about as much as the 30 percent estimated for all commodities. It was pointed out in connection with these figures that grocery stores have been adding new product lines such as drugs and this expanded their sales volume. In addition, as their economic positions improved, families have "traded up", buying more expensive cuts of meat, etc. If these factors are kept in mind, the tonnage showing for soaps is quite favorable, the speaker said.

In discussing the trend on soap prices, Mr. Stomberg stated that over-

all per pound cost figures derived by dividing total dollar sales by total tonnage sales cannot be used to determine comparative prices, because the composition of the soap market is changing. Many persons have shifted since 1940 from bar to package laundry soaps and more recently the synthetic detergents have captured a substantial share of the "soap" market.

In a talk on "The Business Outlook for 1951", Arthur R. Uppgren, associate editor of the *Minneapolis Star* and professor of economics at the University of Minnesota, declared that "while at present the attempt is being made to achieve control of price levels and wages, the future course of prices will be determined largely by the effectiveness of the fiscal program of government."

Vice-Admiral Joel T. Boone, former Inspector-General, Naval Medical Activities, U. S. Navy, and recently appointed head of medical activities of the Veterans' Administration, discussed his recent trip to the Pacific,

Photograph taken during the annual banquet at the 24th AASGP meeting.



including first hand observations of the fighting in Korea and life in Japan under the occupation. He spoke at luncheon, Jan. 31, the first day of the meeting.

Specialty Division Meeting

SIMULTANEOUS meetings of the Specialty Soap and Glycerine divisions were held the afternoon of Jan. 31. At the meeting of the Specialty Soap Division, William T. Ingram, associate professor of public health engineering at New York University, in a talk entitled, "Sanitation is Everybody's Business" said that the soap and glycerine industry can and should capitalize on the new and growing uses for its products, publicize ways in which cleanliness and sanitation demand the products the industry has to offer."

A panel discussion dealing with the recommended concentration of liquid soap for use in soap dispensers was participated in by J. L. Brenn of Huntington Laboratories, Huntington,

Ind., representing the soap maker; Martin Peters of Moore Brothers Co., New York, representing the soap dispenser manufacturer; Dr. H. E. Harding of National Dairy Research Laboratories, Oakdale, representing the consumer.

Mr. Peters pointed out that too little attention was paid to soap dispensers and that most people regard them as gadgets. Dispensers are made to deliver soap in liquid, paste or powder form. There are specific reasons for making them the way they are. Cost is an important factor, Mr. Peters stated.

As to the anhydrous soap content of a liquid soap, Mr. Peters said that he does not recommend the use of a soap with an anhydrous soap content of more than 25 percent. The soap anneals in the valve in high concentrations, particularly if the dispenser is out of use for any length of time.

He suggested that manufacturers of powder type hand cleansers have their dispensers built especially

for their products, since a specific dispenser is required for each powder.

Liquid dispensers are the most widely used, a variation of which are the lather types. These are economical in the use of soap and deliver soap "in bulk", the speaker said.

By correct technique it is possible to achieve 5,000 washes per gallon of liquid soap, Mr. Peters declared. He recommended the use of both liquid and powder type dispensers in industrial establishments, with two liquid soap dispensers for one powder type.

In outlining the correct washing technique with liquid soap from a dispenser, Mr. Peters said that soap should never be used before water.

Dispensers are abused and broken down much faster if an improper washing technique is followed, he said. Liquid soap dispensers are built as durably as possible, and many stand up for a long time if serviced correctly.

He said that it is easier to sell soap and a dispenser than the dispenser alone. The salesmen should know as



much as possible about the soap they are selling and also be able to recommend the right washing technique.

Soap dispenser manufacturers will be prohibited from using copper and brass in soap dispensers in two months, Mr. Peters said. However, usable dispensers will continue to be made, as they were in World War II, he concluded.

The next speaker, Dr. H. E. Harding of National Dairy Research Laboratories, Inc., Oakdale, N. Y., discussed the topic of "What Does the Consumer Want in a Liquid Soap." In his paper Dr. Harding gave the following as the six important characteristics of an ideal liquid soap:

- 1.) Effective in removing soil from the skin;
- 2.) effective in reducing the bacterial population of the skin;
- 3.) harmless to the user;
- 4.) harmless to dispensers and washroom fixtures;
- 5.) pleasing in appearance and odor;
- 6.) economical to use.

Glycerine Division Meeting

AT the Glycerine Division meeting, N. N. Dalton, association consultant, reviewed the glycerine situation. The glycerine research program was described by Dr. C. A. Miner, Jr. of Miner Laboratories, Chicago, who cited ways the program is aiding users and the glycerine industry. The study of ester gums, the use of glycerine in foods, the basic chemistry of the reaction between glycerine and acids are subjects being investigated by the division's research group, Dr. Miner said.

The glycerine advertising and publicity program was reviewed by E. Scott Pattison of G. M. Basford Co., New York, advertising and publicity representatives for the division. The change-over in approach brought about as a result of the Korean situation and the subsequent heavy demand for glycerine were discussed by Mr. Pattison.

The final paper of the session, by Joyce C. Kern, was "Glycerine and Polyalcohol End Use Picture". In it figures were given on consumption of these products by industries. According to Miss Kern, glycerine production of 220 million pounds constitutes about 39 percent of present poly-

alcohol production of 894 million pounds.

A detailed report on the "Cleanliness Promotion" activities of the association was presented at the opening session on Feb. 1 by George A. Wrisley. He was followed by Ralph S. Trigg, Administrator of the Production and Marketing Administration and president of the Commodity Credit Corp. of the U. S. Department of Agriculture, who pointed out that as far as fats and oils are concerned, "there are too many unknown factors in the present emergency to permit a positive appraisal of what may lie ahead". He added that the U. S. is in a much better position now with regard to fats and oils than it was 10 years ago.

In reviewing his work as a special consultant for the U. S. Department of Agriculture on the utilization of tallow, John W. McCutcheon described the work of the program to expand industrial uses for tallow. He suggested that price fluctuations in tallow do not appear too closely connected with supply and demand and that the problem of price control is very complex. He added that a futures market might be helpful.

Lawrence H. Flett of National Aniline Div., Allied Chemical & Dye Corp., New York, stated that a two to three billion pound annual production of synthetic detergents "is a reasonable expectation within the foreseeable future." He further stated: "There will always be a soap market. In spite of the phenomenal development of synthetic detergents, the soap market, as measured by the annual consumption of fats and oils, has not shown any retrogression. One of the first effects which the detergent development has had on the soap industry was to stimulate greatly the consumption of fats and oils and to speed the improvement of soaps. Soaps have always improved, but improvement has been accelerated by the new synthetic competition and by expanding research."

In discussing "New and Expanded Use of Industrial Soaps and Synthetic Detergents" at the Industrial Soap Division meeting, the after-

noon of Feb. 1, James W. Perry of Massachusetts Institute of Technology, told his audience that while great progress has been made with synthetic detergents in the past 20 years, the possibilities inherent in soaps should not be neglected and overlooked. He also stated that "even those properties of soaps that are regarded as undesirable are not always disadvantageous. Precipitation by hard water is generally considered a disadvantage. Yet there is no denying that much precipitation has simplified the operation of sewage disposal work. In our enthusiasm for new synthetics, let's not sell the soaps short."

The final feature of the Industrial Soap Division's session was a panel type question and answer discussion participated in by M. L. Sheely of Armour & Co., Chicago, J. L. Brenn, J. C. Harris of Monsanto Chemical Co., Dayton, O., and R. E. Hauber, Procter & Gamble Co., Cincinnati. Among the questions raised was that concerning the extent to which synthetic detergents have replaced soap in the textile field. The textile industry was the first to use synthetics and has used large amounts since, the answerer stated. He also pointed out that price is an important factor and that if soap prices rise farther, and if synthetics remain at the same level, an increased use of synthetics is anticipated. In reply to a question regarding a "sustaining program" on behalf of soaps, it was suggested that a monograph or series of booklets listing technical information on soaps, similar to the glycerine division's monograph, be undertaken.

Another question dealt with the correct proportion of soap and alkali for washing cotton goods. After pointing out that lots of variables were involved, including the amount and type of soil, type of agitation in washing, and the question of how to measure detergency, specific recommendations were cited.

The meeting closed with the president's reception and annual dinner in the grand ballroom, the principal speaker for which was Paul Hoffman, director of the Ford Foundation and former E.C.A. head.

Soap Advertising Claims

While soapers have been relatively free from citations by the Federal Trade Commission for advertising claims, the phrase "castile soap" continues to be troublesome. Cases and court decisions reviewed.

THE advertisement of a soap product carried in a Philadelphia paper some years ago represented this soap to possess phenomenal therapeutic values, whereas the soap was a simple compound of common chemicals.

"No other treatment for permanent cure has ever been discovered. Some of the best skin specialists in the city are using it exclusively and praising it highly."

To eliminate falsehoods of this character a Presidential Message urged the enactment of the Federal Trade Commission Act. It was asserted that the need was urgent for legislation to prevent the raising of false hopes of speedy cures of serious ailments by misstatements of facts about worthless mixtures on which the sick will rely while their diseases progress unchecked.

Shortly after this message to Congress the Federal Trade Commission was created, empowered to prevent, "Persons, partnerships or corporations * * from using unfair methods of competition in commerce and unfair or deceptive acts or practices in commerce."

A recent violation of the Act in a statement on the wrappers of a soap marketed by a New York firm, "Made with 100% genuine imported olive oil," was the subject of a cease

and desist order. The soap, maintained the Commission, either contained no olive oil or but a small percentage.

This order of the Commission, issued a few months ago, forbade representing either that olive oil was the only oil used in the soap or that it was made exclusively of olive oil, unless such statements were true. The F.T.C. further said that the claim should not be made that any soap was made with or contained olive oil when it did not contain a significant quantity of that ingredient. (1)

The extent to which the use of the terms "olive oil" and "castile" are sanctioned has now been determined definitely. The Commission in a now famous incident insisted that a producer, in addition to manufacturing several brands of soap containing varying percentages of olive oil, produced seven other brands all sold as "castile" but having no olive oil content whatever. A cease and desist order was issued by the Commission prohibiting the advertising of these soaps either as "olive oil" or "castile." The F.T.C. further ordered that the word "olive" not be used unless the name of the oil or fat employed be shown immediately in conjunction with the word "olive" and in a manner equally conspicuous. And further, that when an oil or a fat of a soap is composed of two or more oils or fats including

olive oil or fat in such proportion that the soap in any of its qualities is substantially affected by any ingredient from olives, such fact should be so stated in an equally conspicuous manner.

From this order of the Federal Trade Commission the soap company appealed to the Federal Court of Appeals. In its decision in relation to the use of these terms in soap advertising the court said that the present contrarities of opinion as to the meaning of the words "castile soap" was the result of an effort on the part of certain soap manufacturers, both foreign and American, extending from very early times to the present, to corrupt and change the public's understanding of the meaning of these words to the manufacturer's advantage. As a result of such effort, it is not at all surprising that the present laity should have such diversified views as to the meaning of the words. The greater part of the laity knows very little and cares less as to the constituent elements in any soap, the court stated.

In a Bulletin of the Bureau of Standards of the United States Department of Commerce occurs the following: "Castile soap was originally made from low grade olive oils. The name now represents a type of soap, the name 'castile' being applied to a soap

intended for toilet or household use, sold usually in large unwrapped bars which are cut up when sold or when used."

The government, continued the Federal Court, reversing the order of the Federal Trade Commission, has thus committed itself to the proposition that castile soap may be made of oily and fatty elements other than olive oil. (2)

In this decision, however, the Federal Court left undisposed and hanging in midair the use of the words "olive oil" in the labeling of a soap in which that ingredient is but a small or negligible part.

Some years later the Commission inaugurated a second proceedings against a soap manufacturer where it claimed a misuse of these words. This company, the Commission contended, sold many kinds of soap advertised and represented as containing olive oil: "Oliv-ilo," "Purito Olive Oil Soap," "Olive-Skin Pure Toilet Soap," "Palm Olive Oil Soap."

Genuine olive oil soap, maintained the Commission, was soap in which the oil ingredient is olive oil to the exclusion of all other oils and fats; that the consuming public preferred soap in which the content was wholly olive oil; that by these representations this manufacturer sold its products at a lower price than those selling genuine olive oil soap and thus, "trade was unfairly diverted from those competitors dealing in the genuine olive oil soap as well as those dealing in soap not wholly olive oil but who truthfully advertised their soap."

The defense of this soap manufacturer was that the term "olive oil" in describing soap did not mean to the purchasing public that the product was soap with an oil content of 100 percent olive oil.

This order of the Commission was later modified by the Federal Circuit Court of Appeals, that the Commission should forbid the use of "olive oil" under such circumstances "except in connection with the name of another oil or by some other word or words clearly indicating that such soap is not made wholly of olive oil." (3)

This the Federal Court supplemented with the comment that otherwise, "Purchasers are deceived into purchasing an article which they do not wish or intend to buy and which they might or might not buy if correctly informed as to its origin. We are of opinion that the purchasing public is entitled to be protected against that species of deception and that its interest in such protection is specific and substantial." (4)

The Federal Trade Commission in another leading case charged a Chicago soap manufacturer with a violation of this statute in its sale of "naptha" soaps and washing powders; that the naptha content adequate for cleansing had long since evaporated when this soap reached the consumer but that this manufacturer represented to the public that those products contained naptha in an amount sufficient to be effective as a cleansing ingredient."

The Federal Court on appeal ordered that the manufacturer, "Be directed to state the amount of naptha the manufacturer should be required to put into its soap and soap products at the time of manufacture." This was supplemented with the explanation that, "The naming, labeling and advertising of a soap or soap product as naptha soap which does not contain sufficient naptha to be effective as a cleansing ingredient and substantially to enhance their value and cleansing power when used by the consuming public, are unfair methods of competition." (5)

Where Producers Err

IT is in these more finely drawn distinctions of the names and ingredients that the average producer is prone to err. Name the ingredients in the labels and advertisements. Better, secure in advance the opinion of a representative of the Federal Trade Commission and the merchandising road will be freed of these trade obstructions born of wrong definitions.

In the more extreme cases the sins of the soap industry have been glaringly apparent. A decree in the Federal Court of Appeals a few years ago sustained an order of the Commission against a producer represent-

ing in the sale of its soaps, cosmetics and face powders "that the creams or soaps have added beneficial value upon the skin by reason of their vitamin content." (6)

This blatant misrepresentation was that "Mazon" was an "ethical preparation compounded under the personal supervision of its originator—the original treatment of its character for * * *."

"Thousands of physicians have approved clinically the effectiveness of Mazon treatment and are prescribing it daily to eliminate permanently skin disorders. The colloidal nature of the base of Mazon and its strong penetrating characteristics, together with its soothing ingredients afford a quick and permanent elimination of eczema and other skin disorders."

These statements recall the famous comment of the Federal Court on the advertisement of the product of a well known cosmetic manufacturer characterized as "rejuvenescent," that, "It brings to the user's skin the clear radiance, the petal like quality of the texture of youth."

While the wise and worldly may well realize the falsity of any representations that the present product can roll back the years, said that court, there remains that vast multitude of others who still seek the perpetual fountain of youth. The average woman conditioned by talk in the magazines and over the radio, of vitamins, hormones, etc., might take "rejuvenescence" as one of the modern miracles and something that actually causes her youth to be restored.

It is for this reason that the Commission may insist upon the most literal truth in advertisements and should have their discretion undisturbed by the courts to insist if they choose, upon a clear form of advertising. (7)

It is in this field of glaring falsehood and fraud that the Commission has functioned to the greatest purpose and in which the soap industry has made but few appearances. In these few instances the advertising of the product has edged into the patent medicine field. The few notable ex-

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High Viscosity Detergent Solutions

By H. L. Sanders and E. A. Knaggs*

Ninol Laboratories
Chicago, Ill.

VISCOSITY is one property of detergent solutions that does not seem to have received much attention, in spite of the fact that highly viscous surfactant solutions could have many interesting applications. Thus, viscous cleaning solutions could cling to walls and ceilings without runoff or drip, permitting longer contact times and more efficient usage; emulsifiers of high viscosity could prevent sedimentation of solid or liquid particles by increasing the "body" of the liquid; concentrated shampoos or other products could be formulated with viscous detergents in such a way as to remain thick even when diluted for repackaging, thus saving on shipping costs; and, finally, the consumer-appeal of watery-looking liquid cleaners could be greatly enhanced by the addition of viscosity-building detergents.

Up to now, some of these objectives have been achieved by the use of polymeric thickening agents such

as carboxymethylcellulose, methyl cellulose, natural gums, etc. Since these products possess no detergent properties of their own, however, they must be regarded as inert materials so far as most cleaning operations are concerned. In addition, they tend to mold in warm weather, often show incompatibility with detergent solutions, and sometimes leave white films if rinsing conditions are poor, as in floor cleaning.

It would obviously be preferable to thicken detergent solutions with detergents, rather than gums, and the present investigation was undertaken to determine the extent to which this might be possible.

Viscosity Theory

BEFORE describing the results obtained, a brief review of some basic theory may be helpful. The viscosity of liquids is believed to originate in the mutual interaction of molecules on one another, this action taking the form of intermolecular attraction (van der Waals), or of mechanical entanglement of long chain molecules. In either case a certain amount of force must be exerted on the liquid to make it flow against the damping influence of this internal molecular "friction." The viscosity obviously determines how rapidly the liquid flows when subjected to a given shearing force.

Newton studied this problem three hundred years ago, and concluded that the rate of flow in a liquid must be directly proportional to the applied force. This can be written:

$$F = u \cdot S$$

or

$$u = \frac{F}{S} = \text{constant}$$

where "u" is a constant called the viscosity coefficient, "F" is the applied force, and "S" the flow rate.

In other words, Newton's analysis led to the assumption that all liquids possess a characteristic viscosity which is independent of the rate of agitation or shear.

TABLE I
Viscosities of Common Liquids
(In Centipoises at 20° C.)

Benzene	0.6
Water	1.0
Mercury	1.6
Sulfuric Acid	22.
Olive Oil	84.
Nujol	90.
Glycerine (95%)	545.
Honey	7600.

It turned out that most pure liquids and many solutions did in fact obey such a law. Table 1 lists the viscosities of some common Newtonian liquids, the unit of viscosity being the "poise" (after the French physicist Poiseuille), or more commonly the "centipoise" (0.01).

In more recent years, however, it became evident that not all liquids exhibited this simple Newtonian behavior. Thus, solutions of proteins or gums in water, or of resins in benzene, appeared to decrease in viscosity at higher rates of shear, so that it became difficult to assign definite viscosities to these liquids—in other words — was no longer constant. Fluids of this type were termed "non-Newtonian."

The difference in behavior is illustrated in Fig. 1 where a viscous Newtonian solution (honey) is compared with a non-Newtonian solution (7% carboxymethyl cellulose) at increasing rates of agitation. As can be seen, the CMC solution exhibits decreasing viscosity as the speed rises, whereas the honey remains constant.

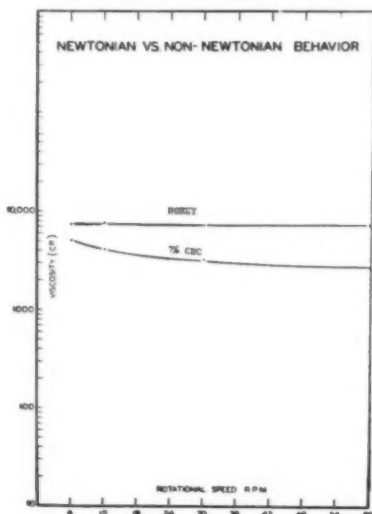


Figure 1

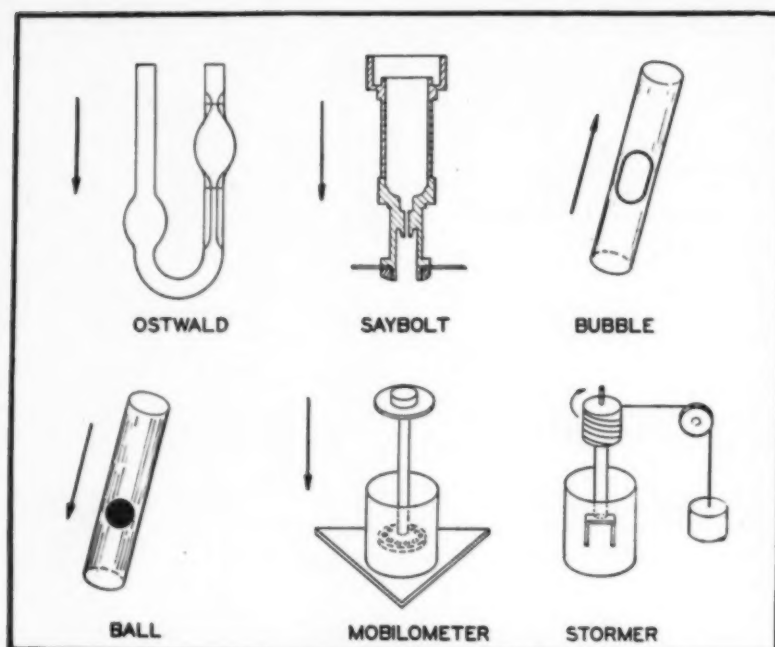


Figure 2

This difference is believed to be due to a molecular-shape effect. In Newtonian fluids the molecules are relatively small and move relatively free of each other. Non-Newtonian liquids, on the other hand, usually contain very long-chain molecules; at low agitation rates these are entangled and create a high resistance to flow, whereas at high speeds the molecules become aligned and offer less resistance, thus resulting in a viscosity decrease. It is for this reason that non-Newtonian liquids are said to have structural viscosity.

Viscosimeters

THERE are many methods in use for measuring viscosity, some giving absolute and others relative values. A few of the many viscosimeters employed are shown diagrammatically in Fig. 2.

The Ostwald capillary viscosimeter is probably the most widely used for high-precision scientific work, and measures the time required for a liquid to flow through a capillary under its own weight. The Saybolt pipette is widely used in petroleum laboratories, and the Gardner Mobilometer, which is a perforated

plunger, is convenient for paint control work. The bubble and falling sphere instruments measure relative viscosities for general industrial control work.

All of these are suitable only for measurement of Newtonian fluids since there is no way of controlling flow rates. With non-Newtonians some type of control is necessary since the viscosity will vary with the rate of agitation. The rotational type of viscosimeter, exemplified by the Stormer, affords a convenient means of control, since the immersed bob can be rotated at different speeds by varying the weights used.

Instead of varying weights, the bob can more conveniently be driven by a variable speed motor as is done with the Brookfield Synchro-Electric viscosimeter, shown diagrammatically in Fig. 3. As the speed is increased, the twist or torque on the spring also increases, and the attached pointer indicates the viscosity directly on the calibrated dial. For Newtonian liquids these are true viscosity readings, but for non-Newtonians they are only "apparent" viscosities.

In the present investigation a Brookfield Model LVF Viscosimeter was used, with all measurements be-

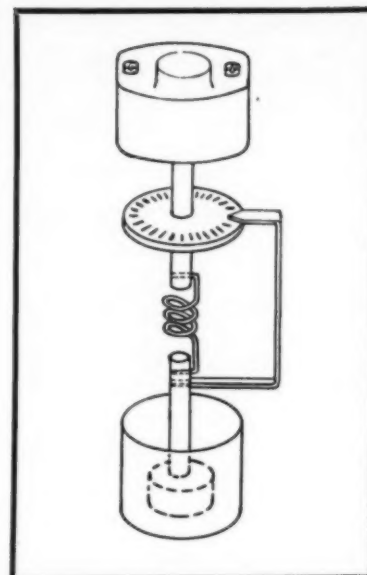


Figure 3

ing made in a water bath held constant at $25^\circ \pm 0.2^\circ$ C. The instrument was checked for accuracy against a Bureau of Standards oil having a viscosity of 947cp at 25° C., and was found to agree to within 3% at all four speeds (6, 12, 30, 60 rpm) and with all four instrument spindles. This was considered adequate for the purposes of the present study.

Results

USING the Brookfield viscosimeter, the viscosities of detergent solutions containing nonionic or anionic agents were first measured, the products tested being the following:

Nonionic

An alkylolamide (Ninol 2012A)
An alkylolamide (Ninol 737)
An alkaryl polyglycol ether

Anionic

An alkaryl sulfonate
An alcohol sulfate
A potash soyabean soap

In Fig. 4 the viscosities of solutions of these detergents are plotted against the concentrations (on an active ingredient basis). The anionics could not be measured beyond 30% active concentration due to limited solubility.

The formation of the sharp viscosity maxima, shown in Fig. 4, appears to be characteristic of the non-

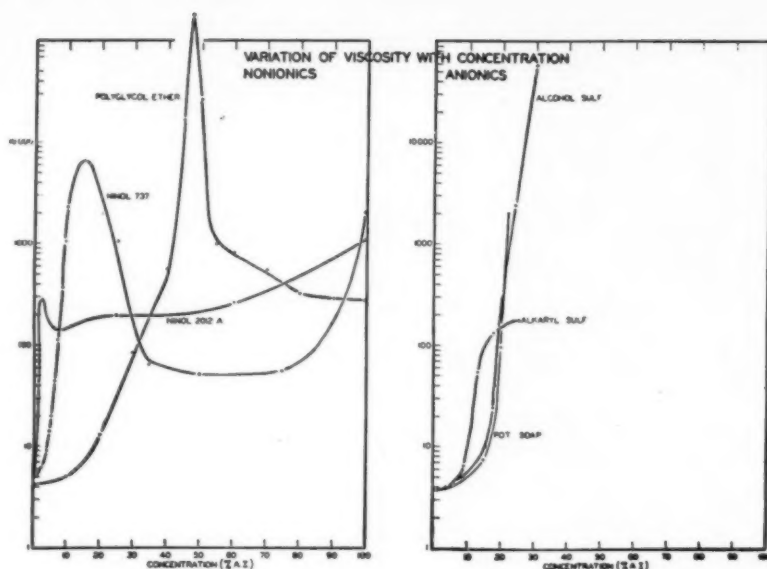


Figure 4

ionics, whereas anionic detergents give smooth curves. The occurrence of these maxima is probably due to high solvation of the nonionic molecules at certain critical concentrations. It is generally believed that the solubility of the nonionics is due to hydrogen bonding of water molecules to the ether oxygens (for ethylene oxide types) or the nitrogen atoms (for alkylolamides), and the number of water molecules bound in this way may increase suddenly at certain critical ratios of detergent to water. This high degree of solvation could then result in a sharp rise of viscosity by increasing the effective size of the molecules, with resultant molecular "crowding" and entanglement occurring.

It should be noted that "Ninol 2012A" is an effective thickener at low concentrations, giving viscosities of about 300 cp. at concentrations as low as 2%. So far as is known no other detergent available exhibits this behavior.

Much greater viscosities can be obtained with most of the other detergents shown, but only at higher concentrations. For example the polyglycol ether solution is almost paste-like at 50% concentration.

Because of the peculiar shape of the nonionic viscosity curves, it becomes possible to formulate products that thicken on dilution with water. For example, "Ninol 737" becomes al-

most one hundred times more viscous when diluted from 70% concentration down to 15% by addition of water.

There are some cleaning products in which it would be desirable to maintain a fairly constant viscosity even on extensive dilution, as for re-packaging, and effects of this type are possible with "Ninol 2012A," where only small changes in viscosity occur on diluting from 50% to 5%.

AS WAS mentioned previously, the viscosities of non-Newtonian liquids are not defined as clearly as

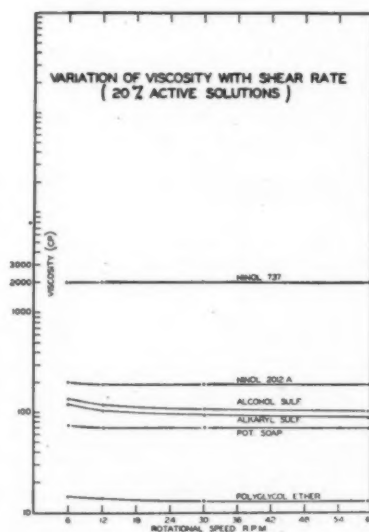


Figure 5

those of simple Newtonian types, and depend to a considerable extent on the speed of rotation, type of viscosimeter used, etc. It is important, therefore, to determine whether or not the detergent solutions discussed here are Newtonian. This was done by measuring the viscosities at all four of the speed ranges on the Brookfield viscosimeter (6, 12, 30, 60 r.p.m.) and observing whether any drop occurred at the higher speeds. Measurements of this type were carried out for all six detergents at two different concentrations. In the first set, a concentration of 20% was arbitrarily chosen as representing a reasonably high level for study; the results are shown in Fig. 5. As can be seen, there was almost no change in viscosity for the two Ninols and the soap. The other three showed slight decreases at higher speeds. There would appear therefore to be little departure from Newtonian behavior for these 20% detergent solutions.

A second set of measurements was then made at concentrations close to the maximum viscosity exhibited by each detergent. This concentration varied, of course, for each detergent and the actual concentration chosen is shown in Fig. 6. Here again, in spite of the high viscosities involved, only the 50% polyglycol ether solution exhibited a drastic departure from Newtonian behavior, while the 22.5% potash soap and the 25.5% alkaryl (Turn to Page 129)

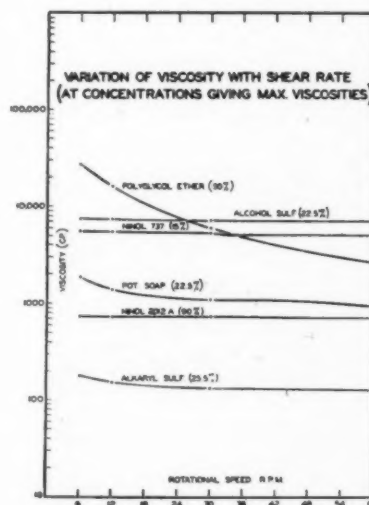


Figure 6



New king size bath soap (above) has just been added to the line of Guerlain, Inc., New York. The new size, which complements the hand size toilet bar, comes in the same four scents: Iris, Jasmin, Geranium and Fleurs des Alpes. Three cakes come to the box. Each bar is hand wrapped in silver foil beneath a paper wrapping of authentic antique design that matches the covering of the outer box.



Old and new cans for the cleaning agent "Drano" made by the Drackett Co., Cincinnati. In designing new and modernized can (right), the aim was better legibility, recognition in mass display, shelf appeal and memory value. In achieving these, the can design was not changed radically. Larger sink, drain and arrow are featured on the new can, and the name Drano has been changed in color to dark red from orange-red.

WHAT'S



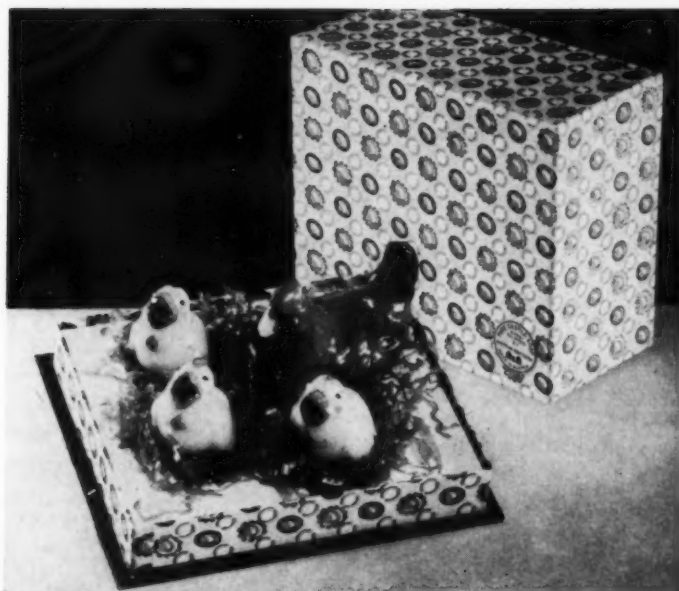
New 12-ounce "Bug Bomb" aerosol insecticide announced recently by Bridgeport Brass Co., Bridgeport, Conn., retails for \$1.09. The new bomb is expected to reach that section of the market not covered by the firm's low pressure aerosol insecticides recently reduced from \$1.89 to \$1.59. Extensive use of magazine advertising and point of sale displays will support the new aerosol.

NEW?



"Harvey" was first a play, later a motion picture and now a novelty soap product. As the last named it is a six ounce Castile bunny standing seven inches high in a clear view acetate container that is decorated in three colors. The soap "Harvey" is a product of Lightfoot Schultz Co., New York. The soap bunny retails for \$1.00

New low-priced aerosol type room deodorant at right was introduced recently by Bostwick Laboratories, Inc., Bridgeport, Conn. Called "Fleet Air Refresher", the new spray deodorant retails for 79 cents. The package contains five ounces. It is fair traded. The new household deodorant is said to contain "Vallum", a new odor absorbent that precipitates odors electrostatically.



New "Chicken Family" novelty soap imported by Mem, New York, is of hand painted Castile soap. Designed to appeal to children as an Easter gift, the set retails for about one dollar.





Cleanliness Bureau Photo

THE connection between bathing and personal cleanliness is obvious. In this hurried and harried world of ours, however, there is a growing appreciation of the relaxation offered by a warm bath. Many of those who have learned of the benefits of baths to tired bodies and taut nerves have also rediscovered the fact that the pleasure of the bath can be enhanced by the use of various preparations. In addition there is a certain feeling of luxury associated with the use of bath salts, perfuming "oils," or bubble-forming products.

Though far from the saturation point, there is a growing trend toward the use of bath preparations. Aside from their own inherent value, their attractive, colorful and often novel packagings make them particularly suitable as gifts that are appropriate in all seasons. Evidence of the growing market for such products is provided not only in store windows and on counter displays but also in

the data assembled in various statistical surveys.

As was pointed out in a discussion (1) published late in 1948, surveys made by newspapers and magazines indicate that approximately 24 to 45 per cent of women questioned use bath salts and closely related products. One study of 17 magazines revealed that 34 per cent of women readers use a bath preparation of one kind or another. In 1949, as the result of questionnaires sent to a random sample of about 4,800 women subscribers to *Woman's Home Companion*, it was found (2) that 20 per cent of the respondents use bath salts and that 19 per cent used a bubbling bath preparation.

Products for Children

ANOTHER increasingly important part of the market are bath preparations used by children. Not only does sister love her foaming bath, but junior also goes in for his share.

Indeed, the promise of a bath with a rich, thick layer of bubbles is a very effective way of enticing the young male animal into the tub. This fact obviously augurs well for the future market for such products. Indicative, too, are the combination packages now being developed and offered with the younger generation in mind. These generally consist of a powder or liquid capable of creating a thick, persistent foam plus a suitably decorated or shaped bar of soap. Sometimes an after-bath body powder is included in more elaborate combinations. Currently there is a trend toward the production of highly decorated, colorful cylinders of bubble bath powder topped with cowboys, clowns, animals or other figures molded from soap.

For convenience in discussing raw materials, formulation and characteristics, bath preparations may be divided into two broad categories. These are the dry preparations and those provided as liquids. The former

includes powdered, crystalline or compressed bath salts, effervescent combinations, bubbling bath products, and various specialties like oxygenating compounds and artificial sea salt.

At present, it appears that scented and tinted bath salts occupy the dominant position among bath preparations. It has been remarked (3) that while their main purpose may be to soften the bath water and prevent a ring on the bath tub, these products also perfume the water, enhance its cleansing power and prevent the so-called hard water itch to which certain people are susceptible. Harry (4) has stressed that there is little doubt that the ability of bath salts to provide a refreshing and attractive odor is of very great importance. He notes that these products are often used in cases where the water requires no softening, but solely because of the psychological effect of adding colored perfumed crystals to the water.

On this basis he is of the opinion that there are three main factors which appeal to users of bath salts. These are color, the general appearance (e.g., size and shape) of the crystals, and the fragrance imparted by the perfuming agent. In addition, the product should leave the bath water soft and clear and should not interfere with the lathering power of the soap.

Bath Salt Composition

HENCE, in order to be suitable for use in bath salts, a compound must meet some rather exacting requirements (5). For one thing, the salt should be easily obtained in the form of regular crystals which are attractive in appearance and are readily soluble in water. The salt should give a solution which is only slightly alkaline, because strong alkali is not only injurious to the skin but is also detrimental to the perfume and color of the bath preparation. The stability of the crystals must be of high order and they must be able to stand up under varying conditions of temperature and humidity. In other words, the crystals must be so stable that they will not lose their luster or become caked in the bottle if exposed to the sun in a store window or left open in the

steamy air of the buyer's bathroom.

Put more concisely, it has been said (6) that the qualities to be sought in bath salts, aside from water-softening ability, are attractive and fast color and perfume, easy solubility in water, pleasing crystal structure, stability, reasonable cost and mild action on the skin.

The basic raw materials used in most products are the sodium salts of alkaline water softeners. These include various carbonates, phosphates and borates. Care must be taken to select raw materials of high quality since certain impurities are capable of causing skin irritation. Coloring agents and perfumes should also be selected with respect to stability and compatibility with alkalis.

Three carbonates—sodium carbonate decahydrate, sodium carbonate monohydrate and sodium sesquicarbonate—are outstanding among the major raw materials of bath salt formulation. Sodium sesquicarbonate, however, is by far the most widely used of these salts and is generally considered to be the most important compound for bath salt manufacture.

"Sodium sesquicarbonate," says one authority (7), "is excellent as a base for bath salts." Actually it requires nothing more than coloring and perfuming to yield highly attractive products. The crystals are small, of pleasing appearance, do not cake or decompose and dissolve readily. Indeed, it has been said (8) that small, needle-like, glistening, white crystals are sufficiently attractive in themselves as to require no coloring at all. Tinting, however, is generally considered advisable as a means of enhancing the attractiveness of the bath salt. With an exceptionally mild action on the skin, it is also an efficient water softener (9). Although sodium sesquicarbonate is used by itself in the preparation of many products, it also finds frequent utility in combination with other raw materials.

Sodium carbonate decahydrate ($\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$), better known in its crushed form as washing soda or soda crystals, was formerly the most widely employed basic material for bath salts manufacture. It is com-

paratively inexpensive, is readily soluble in water and serves as an effective water softener. Although this carbonate makes an attractive product, there are certain drawbacks to its use, which account for its diminishing popularity. In dry air, for example, the crystals give up moisture and become coated with a white film of the monohydrate. This tendency toward efflorescence can be prevented by adding a hygroscopic agent, like glycerine, to the tinting solution and by packaging the bath salt in air-tight containers. More important, however, is the fact that the decahydrate crystals melt and dissolve in their own water of crystallization at temperatures over 90° F. Under such conditions, which are not uncommon during the summer, the crystals will cake or run together in a rather unsightly manner.

In contrast, the monohydrate ($\text{Na}_2\text{CO}_3 \cdot \text{H}_2\text{O}$) is quite stable. Available in several sizes as rounded crystal agglomerates, the compound retains its attractive appearance even in tropical heat and it has little tendency to lose or to absorb moisture over a wide range of atmospheric conditions. Like the decahydrate, it is a good water softener and the monohydrate form of sodium carbonate has a good solubility. According to Harry (4), its sole disadvantage is its slower rate of dissolution. Hence a longer time is required to dissolve the bath salts made with this form of carbonate.

Phosphates for Bath Salts

A NUMBER of phosphates are used in bath salt formulation. Trisodium phosphate has been mentioned by several workers. However, it has been pointed out (5) that, although it is an effective water softener, the compound is too alkaline and the crystals are too unstable for use as bath salts. The disodium salt, while less alkaline, is much more expensive.

Among the water-softening phosphates there are some compounds which are capable not only of precipitating soluble calcium and magnesium but also of peptizing them so that the precipitate remains suspended

in the water but with no effect on any soap that may be introduced subsequently into the water. Sodium hexametaphosphate and the sodium pyrophosphates were cited (10) as good examples of such compounds.

Some years ago, in commenting on the advantages of sodium hexametaphosphate, Jannaway (8) remarked that as a dermatologically acceptable and highly efficient water softener, the compound would find considerable importance as a raw material for bath salts. Unfortunately, the flaky crystals do not seem to be suitable for such use. With respect to tetrasodium pyrophosphate, Kalish (11) has noted that this compound is not highly alkaline, is available in good crystals, is an effective water softener and hence should find increasing use in bath salts.

From time to time other phosphates are suggested for use in bath salt production. King (12), for example, suggests that the rather new compound, polymeric sodium triphosphate, may be used as a bath salt. According to his patent, the material is useful as a water softener, a detergent and as a mild alkali.

Several authorities have remarked that borax crystals are finding greater employment in the formulation of bath salts. Recently, in comparing this material with sodium carbonate decahydrate, Elliot (13) stressed the stability of borax crystals. A mild alkali which is kinder to the skin than the carbonate, borax also permits the use of a wider range of perfumes and colors. Although it acts as a mild detergent, he concedes that borax is a poor water softener. Indeed it does not reduce permanent hardness, even at bath water temperatures. Nonetheless, Elliot does not feel that this is a great drawback because in many instances bath salts are used where there is no water hardness to be reduced. Rather, says he, the main idea is to perfume the water and the air.

In the past sodium chloride crystals were classed (14) among bath salt raw materials. It has no water-softening powers, however, and may even interfere with the lathering prop-

erties of the bath soap. Jannaway (8) has long felt that its use in the manufacture of bath salts cannot be recommended. More recently, Harry (4) has stated that sodium chloride is of no interest in the production of bath salts and rates no consideration in this connection. Even so, it is said to refresh the skin and the material finds occasional use where low cost and ease of manipulation are important considerations. Noteworthy is the fact that one modern text (3) gives a formula for a bath salt consisting of suitably perfumed and colored rock salt crystals.

In the tinting and scenting of bath salts, the main problems are the selection of suitably alkali-resistant dyestuffs and perfume compounds, the even distribution of color and perfume throughout the mass, the avoidance of procedures that will tend to dissolve the bath crystals in the dye solutions, and the attainment of the correct balance of perfume and color (8).

Coloring and Perfuming

COMMERCIAL methods of coloring and perfuming bath salts are rather similar in many respects, but there are variations in detail. The most widely used processes are those employing horizontal or vertical drum mixers; the aqueous or alcoholic tinting and perfuming solutions being sprayed onto the tumbling salts in the mixer. By one standard method, the solution of dyestuff is first sprayed over the salts while the mixer is in motion. After the mass is uniformly colored, the perfume, dissolved in specially denatured alcohol or isopropyl alcohol, is sprayed and dispersed throughout the mixture.

In a variation of this method, the dyestuff and then the perfuming agent are dissolved in the ethyl or isopropyl alcohol. This solution is then sprayed on the crystals while they are being tumbled in the mixer to insure even distribution of the color and perfume. The crystals are spread out in a thin layer for a few minutes to allow the alcohol to evaporate and are then packaged in suitable containers.

Auch (15) points out that this method of drying permits the escape of some of the perfume before the

bath salt is packed. In his recent discussion on bath preparations, Hilfer (16) describes the procedure as a rather primitive method. He feels that a more efficient process is first to mix thoroughly the perfume oils and the salts. This is followed by the addition of the color and wetting down with a minimum amount of water so that the crystals can be coated more easily.

Certain materials require special consideration during the coloring and perfuming operation. Sodium sesquicarbonate, for example, is so readily soluble in water that the spraying solutions must be alcoholic. Auch, stressing this point, also notes that this material lends itself to novelty packaging. It is particularly suitable, for instance, for packaging in layers of several different colors, including untinted salt, in transparent containers.

As is already quite evident, the perfumes and coloring agents used in bath salt production must meet certain definite requirements. Recognizing this fact, many perfume houses offer ready prepared bases combining appropriate odors and colors. This, of course, offers many conveniences, especially to smaller producers who do not have extensive facilities and who make only a small variety of bath salts. However, ready compounded mixtures also have certain drawbacks, chief of which are the fixed ratios of perfume to color and the limitations on selectivity to meet the needs of different types of products (8, 15).

A wide range of pleasing odors can be imparted to bath salts to meet varied tastes and moods. Of course, many perfumes are unsuited for scenting bath salts because they deteriorate quickly in contact with the alkaline crystals. It is a more or less well established rule that perfume compounds suitable for soaps are also appropriate for bath salts (5). Nevertheless, because the alkalinity of bath salts is usually greater than that of soaps it is considered (6) advisable to test the selected perfume for discoloration and permanence before marketing the finished product. Many bath salt producers find it expedient to rely on the perfume compounds that have been

The market for bath products has been expanding recently with the introduction of colorful combination packages for children. These usually feature a cake of soap and a cylinder of bubble bath, based on a synthetic detergent product.

formulated especially for bath preparations.

The amount of perfume to be used depends on a number of factors such as the size of the crystals, the intensity of odor desired, and the types of oils used. Excessive quantities of perfume will cause the crystals to cling to each other and cause pouring difficulties. On the other hand, too little perfume defeats one of the primary purposes of the products.

Colors must be fast to both alkalis and to light. As is the case with perfumes, most soap colors will be found satisfactory for bath salts (15). Since they come into contact with the body, all the dyestuffs must be certified. According to one standard reference text (17), the following are some of the colors that have been found stable to alkali and to light: D & C Red No. 14, D & C Red No. 28, D & C Yellow No. 8, D & C Yellow No. 9, D & C Green No. 5, D & C Green No. 6, Ext. D & C Red No. 5, Ext. D & C Blue No. 4, and Ext. D & C Violet No. 2. Of course, other tints can be produced by a suitable blending of these colors. The concentration of coloring material, of course, will vary with the dye used, the size of the crystals and the intensity of color desired.

Complex formulations do not enter the manufacturing picture. Indeed, many products consist only of a single salt that has been appropriately perfumed and colored. Sodium sesquicarbonate, as already indicated, is often used alone in this way. Obviously, however, there is no reason why two or more compounds cannot be mixed in order to combine the best features of each. Kalish, (11) for example, lists several such combinations. One typical preparation consists of a mix-

ture of sodium sesquicarbonate and borax in a ratio of 4:1. Another calls for a mixture of:

	Per Cent
Sodium pyrophosphate	25
Sodium sesquicarbonate	50
Borax	25

Bath Powders

BATH powders are variations of the standard bath salts. The selection of raw materials, perfuming and tinting, and manufacture are essentially the same. According to a British authority, (4) they consist of powdered sodium carbonate or sesquicarbonate, with or without borax. Reflecting American practices, Thomsen (3) states that bath powders are usually made of finely ground sodium sesquicarbonate or one of the sodium phosphates into which is absorbed as much perfume concentrate as it will hold.

Bath tablets, he notes, consist of the same combinations but are compressed into tablets, which are usually colored. According to one report on bath tablets, (18) sodium chloride is also an important raw material in the manufacture of such products. Rock salt, which is almost pure sodium chloride and free from hygroscopic admixtures, is preferred for this purpose. In place of rock salt, neutral anhydrous Glaubers salt (crystalline sodium sulfate) can be used, but the color and appearance will not be as good. Binders, such as lactose, gum arabic and the like, are sometimes used to facilitate compression. A departure from the use of such standard materials is offered in the suggestion (19) that a polyethylene glycol composition ("Carbowax") be used as a binder in compressed bath salts.

Compressed bath salts in the form of tablets, cubes, "eggs," and

various special shapes lend themselves to novelty packaging and offer certain conveniences. One disadvantage, however, is their slow rate of solution. This can be regulated to some extent by the degree of compression and by other means. Thus, Auch (15) suggests that it is possible to make a tablet that will disintegrate rapidly and satisfactorily even in relatively cold water by incorporating starch in the tablet granulation. This, however, will produce cloudiness in the bath, which may or may not be desirable. Another means of speeding dissolution is to include materials that will react with each other.

Effervescent Products

SUCH is the case in the formulation of effervescent bath preparations, which are provided as free-flowing or compressed products. The usual effervescent bath salts depend upon the liberation of carbon dioxide as a result of the reaction, in the presence of moisture, that takes place between mixtures of sodium bicarbonate or sesquicarbonate and tartaric or citric acid. As with all effervescing mixtures, moisture must be rigorously excluded to prevent premature decomposition. All components should be absolutely dry and manufacture should take place in a dry atmosphere. Starch is often included to prevent interaction during storage or in the package; the acid and alkaline components being coated separately with this material. Both color and perfume should be applied in alcoholic solution or suspension to avoid unnecessary moisture. (6)

Obviously, the manufacture of effervescent bath salts requires considerable skill and careful control. This should be borne in mind in considering the various formulas provided in the literature (6, 7, 11). One of the simplest of such combinations is given by Winter, (20) as follows:

	Parts
Sodium bicarbonate	100
Tartaric acid	75
Starch	15

Sodium bicarbonate and sodium sesquicarbonate are frequently combined, as in the formula given below: (3)

	Per Cent
Sodium bicarbonate	70.0

(Turn to Page 143)

TURNER

WETTING AGENTS

ANIONIC

(For Copious Suds)

TYPE: ALKYL ARYL SULFONATE

FORMS: FLAKE, GROUND
LIQUIDS and POWDER

ACTIVE ORGANIC: 40%-50%-70%

NON-IONIC

(For Controlled Suds)

TYPE: POLYOXYETHYLENE

FORM: LIQUID

ACTIVE ORGANIC: 100%

TURNER Detergents are characterized by rapid solubility, clarity of solution and desired absence of turbidity.

Dry forms are white in color. Hence they blend (hide) better in your finished product.

Liquid concentrates are amine neutralized and completely salt free. No filtration required.

Powdered material is remarkably free from objectionable dust.

Headquarters for Dispersing,
Foaming, Spreading and Wetting
Agents.

OUR EXPERIENCED TECHNICAL
STAFF AND FACILITIES ARE
ALWAYS AT YOUR DISPOSAL.

Serving Industry Since 1861

JOSEPH TURNER & CO

83 Exchange Place, Providence, R. I.

RIDGEFIELD, NEW JERSEY 435 N. Michigan Ave., Chicago, Ill.

Porter New Ayer Head

Keith Porter, since last August sales manager of Harriet Hubbard Ayer, Inc., a division of Lever Brother



KEITH PORTER

Co., New York, was elected recently as president of the Ayer division, succeeding Ralph P. Lewis, who resigned. Before coming to New York as sales manager, Mr. Porter was general sales manager of Harriet Hubbard Ayer in Canada, Ltd.

Mr. Lewis had been president of Harriet Hubbard Ayer since it was

acquired by Lever Brothers in 1947. Prior to that he was associated with Elizabeth Arden Sales Corp., New York, as general sales manager and



RALPH P. LEWIS

subsequently vice-president in charge of sales. He succeeded Mrs. Lillian S. Dodge, who became president of Harriet Hubbard Ayer in 1918 upon the death of her husband B. B. Thomas, principal incorporator and president of the company at the time. The firm is believed to be the oldest cosmetics company in the United States.

Committee D-12 to Meet

The annual meeting of Committee D-12 on soaps and other detergents of the American Society for Testing Materials, Philadelphia, is scheduled to be held in New York, March 19-20, at the Hotel Park Sheraton. Several technical papers will be read and work on test methods and specifications will be discussed.

FR Advtg. Post to Berman

Alfred J. Berman, formerly advertising manager of a New York manufacturer of tape recorders for point of sale advertising displays, recently joined FR Corp., Bronx, N. Y., as advertising manager. An Army veteran of World War II, he was at one

time art director for a New York advertising agency. FR Corp. manufactures "Scoop" synthetic detergent and photographic chemicals.

Win Management Awards

Colgate - Palmolive - Peet Co., Jersey City, N. J., and Procter & Gamble Co., Cincinnati, are among 236 firms throughout the United States and Canada which are being awarded "Certificates of Management Excellence," for 1950 by the American Institute of Management, New York, it was announced recently. The awards, which will be bestowed annually hereafter by the Institute, are based on its continuing study of more than 2,000 leading concerns.

Fire Destroys Perfex Plant

Fire destroyed the Omaha, Nebr., plant of Perfex Manufacturing Co., producers of synthetic detergents, powdered bleach, liquid starch, etc., Jan. 9. The general headquarters of Perfex are in Shenandoah, Iowa.

Bon Ami Dividend

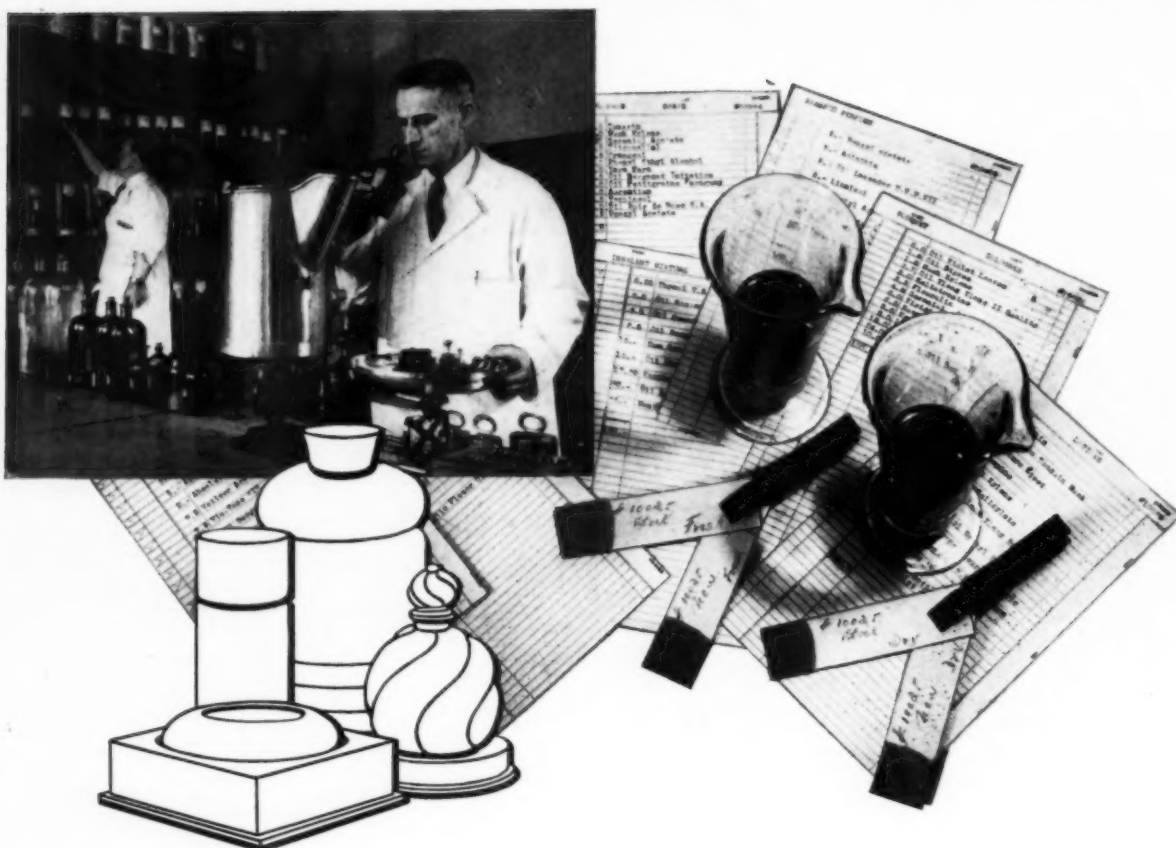
A dividend of 50 cents on Class A common stock, payable January 31 to stock of record January 16, was declared recently by Bon Ami Co., New York. The company previously paid \$1 quarterly. No action was taken by the directors on the Class B stock, on which no dividends have been paid since April, 1950.

Fels Liquid Detergent

The introduction of a liquid detergent during 1951 is under consideration by Fels & Co., Philadelphia, it was learned recently. At present Fels has a powdered detergent, "Felso," which is being distributed nationally. Expansion of the production and distribution of "Felso" is contemplated, depending on the raw material supply situation, according to a company spokesman.

Suspend Industry Reports

Discontinuance of publication of several of its *Industry Reports*, including those on fats and oils and chemicals and drugs was announced recently by the Department of Commerce, Washington, D. C. It is hoped to make available through other media the information formerly carried in these bulletins. Suspension of publication of the *Industry Reports* series was brought about as a result of the new duties now being performed by the Commerce Department under provisions of the Defense Production Act, whereby it was necessary to transfer a group of its key personnel to the National Production Authority.



STRICTLY CONFIDENTIAL . . . Much of our compounding is that of formulations developed for some particular purpose or customer. As such, it is strictly confidential. To keep it so, orders passing through our laboratories for compounding and filling are identified only by numbers—never by the customers' names. Formulas are similarly protected, without name or other customer-identifying symbol. In addition, all formula cards are maintained in fireproof cabinets under the constant supervision of trusted employees. They are released to laboratory heads only on officially signed orders, and during off-hours they are stored in our company's private vault. One other protective measure has recently been taken: Each of these thousands of precious formulas has been microfilmed for safe, permanent storage at a point far removed from possible enemy attack. Thus, we believe, a customer's confidence in **FRITZSCHE** is rewarded—in no small degree—by the measures we take to protect that customer's interests.

FRITZSCHE

Established  1871

Brothers, Inc.

PORT AUTHORITY BUILDING, 76 NINTH AVENUE, NEW YORK 11, N. Y.

BRANCH OFFICES and *STOCKS: Atlanta, Georgia, Boston, Massachusetts, *Chicago, Illinois, Cincinnati, Ohio, Cleveland, Ohio, *Los Angeles, California, Philadelphia, Pennsylvania, San Francisco, California, *St. Louis, Missouri, *Toronto, Canada and *Mexico, D. F. FACTORY: Clifton, N. J.

Kent Drew Vice-President

George H. Kent, director of sales for E. H. Drew & Co., New York, was appointed recently as vice-presi-



GEORGE H. KENT

dent of the firm. He is continuing to supervise the sales activities of the firm. Mr. Kent was formerly director of sales planning and general economics for Koppers Co., Pittsburgh, before joining Drew in January, 1949. At one time he was in charge of marketing research for Libbey-Owens-Ford Glass Co., Toledo.

Olive Oil Soap Claims Hit

Barcelona Sales Co., New York, and Sun Ray Drug Co., Philadelphia, were ordered recently by the Federal Trade Commission to stop making certain claims regarding the olive oil content of a soap they were selling. According to the F.T.C., Barcelona sold "Kent Castile Soap" to Sun Ray, which in turn sold it at retail. The soap carried a wrapper, the Commission said, bearing the legend "Kent Made with 100 per cent Genuine Imported Olive Oil Castile Soap." The F.T.C. charges that the two firms represented the soap as containing significant quantities of olive oil, when actually, "only a small percentage of the fatty ingredients used in the manufacture of the soap was olive oil."

The order bans the two firms from representing that a soap is made exclusively of olive oil unless its entire oil content is olive oil. It further forbids the claim that any soap product not containing significant quanti-

ties of olive oil is made with or contains olive oil.

Acquires Copper Cleaner

Ekco Products Co., New York, manufacturers of copper-bottomed cooking utensils recently purchased the name and assets of "Lusto," a household copper cleaner. Ekco plans to use its regular trade channels to merchandise and sell the product.

"Dial" Paying Its Way

"Dial" antiseptic soap has emerged from the period of high promotional expenses to more than pay its way last year, stockholders of Armour & Co., Chicago, were informed by F. W. Specht in his annual report, released last month. Gross income on all of the company's operations for the 1950 fiscal year totaled \$1,859,827,683 and net earnings were \$19,038,787, he said. Net earnings for the previous year totaled \$558,189. Non-food operations profits were shown in the report, the first one to carry a breakdown of the company's operations, to amount to \$11,127,483. This includes profits on soaps, chemicals, abrasives, etc.

Cowles Advances Lord

Elmer A. Lord was named recently as sales promotion manager of Cowles Chemical Co., Cleveland, succeeding James A. Barnes, who is leaving the position after five years to become editor of *Starchbroom Laundry Journal*. Previously Mr. Lord had worked in both the production and sales department of Cowles. A graduate of Western Reserve University in 1947, he served as a pilot in the U. S. Navy during World War II, attaining the rank of Lieutenant (junior grade).

E. A. LORD

J. A. BARNES



Rippeteau in New Post

Walter L. Rippeteau, manager of the market development department since 1949, was appointed re-



WALTER L. RIPPETEAU

cently as manager of the organic sales department, Michigan Alkali Division, Wyandotte Chemicals Corp., Wyandotte, Mich. He joined the firm in 1947 as technical field representative, research and development division, having earlier been with Phillips Petroleum Co. He is a graduate of the University of Kansas and served from 1941 until 1946 in the Chemical Corps of the U. S. Army at Edgewood Arsenal and the Office of the Chief in Washington, D. C.

Nov. Fat, Oil Use Down

Reported consumption of animal fats and vegetable and marine oils for soap in November dropped to 178,885,000 pounds, from 195,773,000 pounds reported used in October, it was announced recently by the Bureau of the Census of the U. S. Department of Commerce. The November total was also below that of September when oil and fat consumption of soap was 179,887,000 lbs.

The November report also lists under "other inedible products" a figure of 9,693,000 pounds of fats and oils reported used in synthetic organic detergents.

Tallow was again the most important fat for the soapmaker, its use in November reported as 75,866,000 pounds; grease was next with 32,283,000 pounds and coconut third with 22,575,000 pounds.



Free-Flowing

POWDERED LANOLIN SOAP

Powdered anhydrous free-flowing lanolin soap is new. LANOMAL* (1 & 2) means easier, less costly "lanolizing" of powdered and cake soap.

LANOMAL is added by direct mixing, simplifying production blending.

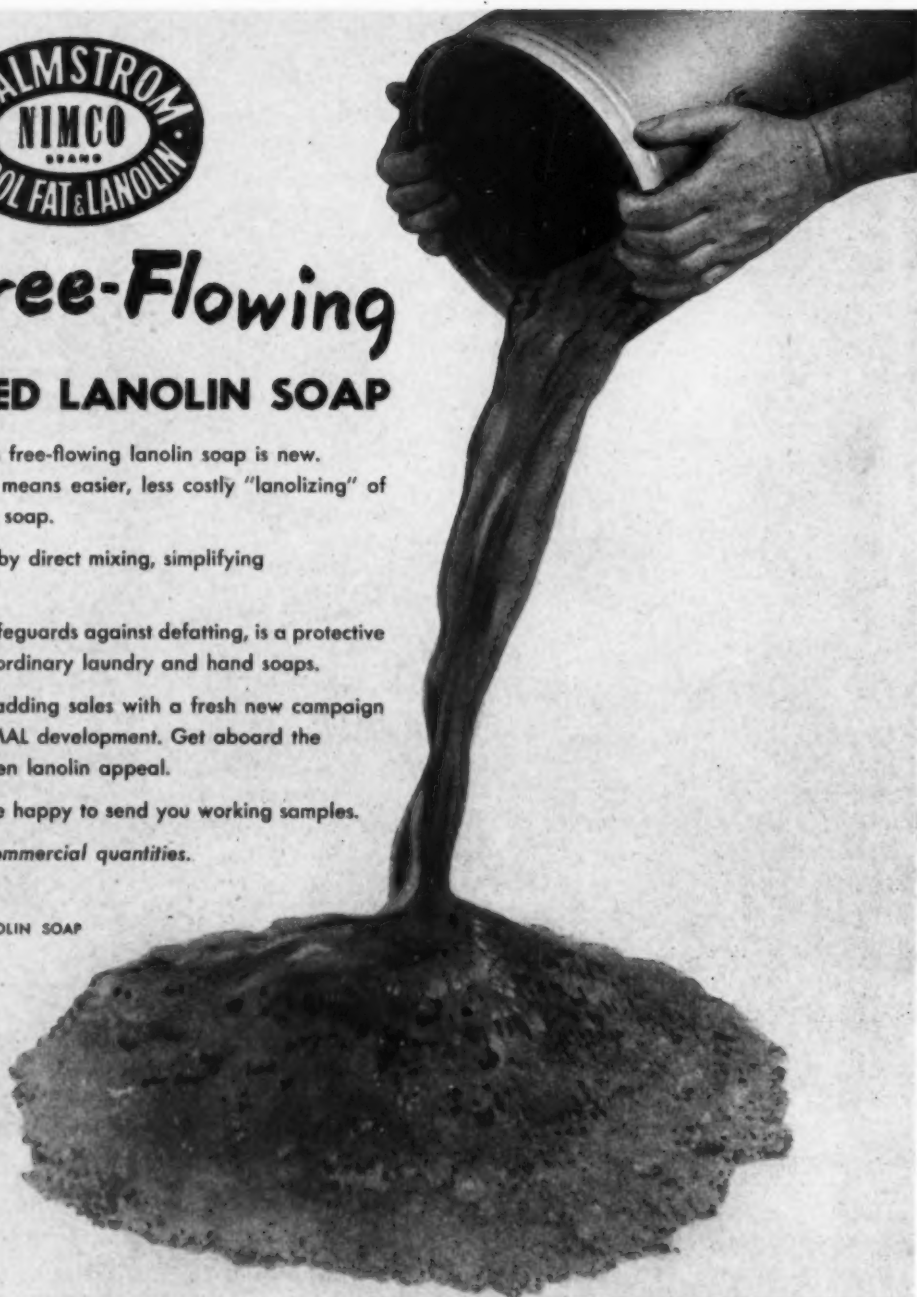
LANOMAL (1 & 2) safeguards against defatting, is a protective for those allergic to ordinary laundry and hand soaps.

Now is the time for adding sales with a fresh new campaign based on the LANOMAL development. Get aboard the driving force of proven lanolin appeal.

Call or write—we'll be happy to send you working samples.

Prompt delivery in commercial quantities.

*NIMCO POWDERED LANOLIN SOAP



N. I. MALMSTROM & CO.

America's Largest Processor of Wool Fat and Lanolin

147 Lombardy St., Brooklyn 22, N. Y.

612 N. Michigan Ave., Chicago 11, Ill.

TYPICAL ANALYSIS (WHEN PACKED)

LANOMAL SOAP #1 (POWDERED)	LANOMAL SOAP #2 (POWDERED)
Lanomal Soap #1 is a prepared free flowing powdered product manufactured by blending 25% of Bentonite with 75% of "Lanolin Soap", with the following typical analysis:	Moisture 1%
Moisture 2.5%	Unsaponifiables (Lanolin Alcohols) . . 5%
Unsap. (Lanolin Alcohols) 34.0%	Sodium Soap 94%
Sodium Soap 63.3%	Combined Sodium Oxide 11%
Combined Sodium Oxide 7.8%	Saponified Lanolin Fatty Acids 83%
Saponified Lanolin Fatty Acids 55.7%	Free Alkali None
Free Alkali None	Ph. of 5% aqueous solution 9.5-10.0
Ph. of 5% aqueous solution 9.5-10.0	

Packing: 300# bbls. or fibre containers.

Ungerer Honors Moore

K. B. Moore, second vice-president of Ungerer & Co., New York, who on Jan. 3, 1951 completed



K. B. MOORE

25 years with the company, was recently presented with an engraved gold watch by Fred H. Ungerer, chairman of the board. The presentation was made at a luncheon given for Mr. Moore by officers of Ungerer at Little Venice Restaurant, New York.

American Incorporates

American Soap Co., Inc., Houston, Tex., recently was granted a 50 year charter of incorporation. Incorporators include: Mary A. Andlauer, Roy Lee Sheppard and George A. Andlauer. Capital stock was listed at \$20,000.

New Soap Consultants

Formation of Chemical Research Associates to act as chemical consultants and to do chemical development work on soap and synthetic detergents, and other chemicals, was announced recently. The group has acquired the laboratory of Product Developers in Bernardsville, N. J. The organization, which is composed of Dr. Jacobus Rinse, a partner in Rinse & Dorst, Haarlem, Netherlands; Dr. August Rooseboom, formerly of Royal Dutch Shell Co., Dr. John van der Valk, formerly director of research and development for Shell Co., in England and Dr. John C. van Dyk, formerly vice-president of John deKuhper & Sons, Jersey City, N. J., also

has an office at 10 Rockefeller Plaza, New York.

"Lan-O-Kleen" Has Lecithin

The addition of lecithin as a soap intensifying emollient to its "Lan-O-Kleen" powdered hand cleaner was announced recently by West Disinfecting Co., Long Island City, N. Y. The soap also contains a relatively high percentage of "free" lanolin. According to the manufacturer, lecithin helps to enhance the soap's detergency and stabilize foaming or sudsing effect.

"Lan-O-Kleen" is a free-flowing, non-dusting powdered cleaner. It contains fine grain corn meal particles, which also act as the carrier for the emollients.

Fritzsche Holds Meeting

The annual meeting of executives and sales personnel of Fritzsche Brothers, Inc., New York, was held for four days recently at the Hotel New Yorker, New York. Innovations at the meeting included the use of motion pictures, stereopticon slides and mounted displays to demonstrate graphically products and processes of the company. A particularly interesting feature of the meeting was a display of many new items introduced to the consuming public during 1950, all of them identified by odors developed in the Fritzsche laboratories.

The meeting opened with an address of welcome by F. H. Leon-

Fels Left \$10,711,000

Samuel S. Fels, head of Fels & Co., Philadelphia, who died last June at the age of 90, left an estate of \$10,711,000, an inventory disclosed recently.

In Wyandotte Coast Post

The appointment of J. M. Norcott as manager of its new Pacific industrial chemicals department with headquarters in Los Angeles, was announced recently by Wyandotte Chemicals Corp., Wyandotte, Mich. The new department, which handles the sale of basic chemicals, including sodium bicarbonate, calcium carbonate, calcium chloride, "Kreelon," "Carbose" and "Naxionate," is located at 114 W. College Street.

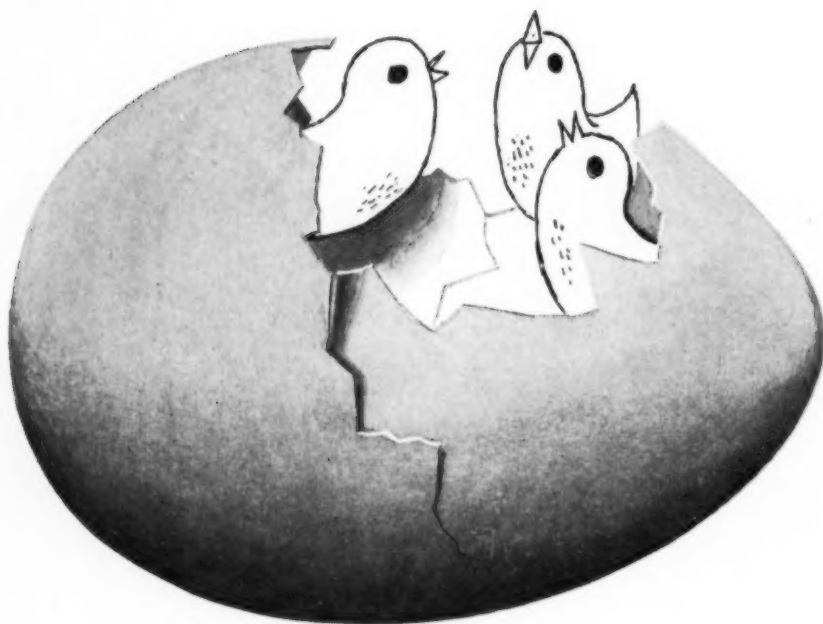
hardt, president. Talks on sales, management and administration followed, given by John H. Montgomery, vice-president, John L. Cassullo, treasurer, D. A. Neary, assistant secretary and Fred Leonhardt, Jr., vice-president.

Both morning and afternoon sessions of the second day of the conference were devoted to discussion by the perfume division with K. W. Tracy, George Ammersbach and Ernest Lawson participating. A resume of the market situation was given by H. P. Wesemann, vice-president.

The concluding event of the week brought all employees together in the grand ballroom for the annual Fritzsche family dinner-dance.

F. H. Leonhardt, president of Fritzsche Brothers, Inc., New York, third from right, and his secretary Miss Mary Neary, at the company's annual sales meeting at the Hotel New Yorker, New York. Left to right are M. J. "Pete" Niles, Chicago manager; James McNamara and Charles Schneider, New York, Miss Neary, Mr. Leonhardt, Stanley Crouch and James Shumaker, of the Los Angeles and Cleveland offices, respectively.





3 caustics in 1

This is the true story of a soap manufacturer who was buying 3 grades of caustic soda from as many suppliers. He thought he needed all 3 grades to satisfy the requirements of his various grades of soap and different processes. But it was a lot of trouble to receive, handle and store these 3 separate grades. So he brought his problem to Wyandotte.

We were able to meet all of his requirements with one grade of Wyandotte Caustic.

Are *you* buying "too many" grades of caustic? If you think you are, why not talk over your specifications with Wyandotte's Technical Service Department?

SODA ASH • CAUSTIC SODA • BICARBONATE OF SODA
CALCIUM CARBONATE • CALCIUM CHLORIDE • CHLORINE
HYDROGEN • DRY ICE • SYNTHETIC DETERGENTS • GLYCOLS
CARBOSE (Sodium CMC) • ETHYLENE DICHLORIDE • PROPYLENE
DICHLORIDE • AROMATIC SULFONIC ACID DERIVATIVES
OTHER ORGANIC AND INORGANIC CHEMICALS

WYANDOTTE CHEMICALS CORPORATION
Wyandotte, Michigan • Offices in Principal Cities



Wyandotte
REG. U. S. PAT. OFF.

SOAP and SANITARY CHEMICALS

Mich. Alkali Div. Changes

The appointment of Paul Weller as district manager of the Cincinnati office of Michigan Alkali Division,



PAUL WELLER

Wyandotte Chemicals Corp., Wyandotte, Mich., was announced recently. A graduate of Ohio State University, where he majored in business administration, Mr. Weller joined Wyandotte Chemicals Corp. in 1945 as a market research analyst. He became director of the department in 1947.

Ed Heiser has become field supervisor of alkali sales in the Cincinnati office.

Robert Fosburg, field supervisor of the calcium chloride department is being transferred as senior sales representative to the New York district office.

Other changes announced by the firm include the following: Charles S. Sanborn has been appointed manager of the market research department; C. J. Farcasin is now field supervisor of the calcium chloride department of the Cincinnati office, and J. M. Norcott has become manager of the Pacific industrial chemicals department.

Buhler Moves to Ft. Lee

Buhler Brothers, Inc., New York, moved recently to new and larger quarters at 2121 State Highway No. 4, Fort Lee, N. J. The firm manufactures roller mills, chain conveyors, automatic conveyor-weighers, pneumatic conveyor-weighers, pneumatic conveyors for granular materials and can manufacturing equipment. The

company has been in existence in Europe since 1860, with headquarters and factory in Switzerland. Offices in New York and Canada were established in 1935.

Diamond Expands in Texas

Diamond Alkali Co., Painesville, O., recently began a \$2,000,000 expansion program at its chlorine and caustic soda plant at Houston, Tex. Increases in the capacity of some of its production units range from 30 to 50 per cent.

Show Medicated Soaps

Medicated soaps of established usefulness for treating skin afflictions were displayed by Stiefel Medical Soap Co., Oak Hill, N. Y., at the 9th annual meeting of the American Academy of Dermatology and Syphilology in Chicago, recently. Among products shown were "Oilatum" soap, a cleanser for sensitive and inflammable skin, "Acne-Aid" detergent soap, a tar shampoo, both cake and liquid, crude coal tar soap for scalp cleansing and tropical tar applications for baths, etc.

John H. Breck, Inc., Springfield, Mass., presented their line of industrial skin preparations, baby soaps and products for hair and scalp treatment.

Procter & Gamble Co., Ivorydale, O., featured "Ivory" soap and five leaflet pads for doctors dealing with routine care of acne, bathing a baby, bathing a patient in bed, the hygiene of pregnancy and home care for bedfast patients.

A session of the conference was devoted to dermatitis in various types of industrial occupations and an outstanding paper on "Simulation and Self Infliction, as Encountered in Industrial Dermatology," was presented by Dr. John G. Downing, Boston, Mass. He drew a careful distinction between true industrial dermatitis, caused by chemicals or other materials, and simulated dermatitis brought about for collection of compensation. Many cases, he said, are extremely baffling, and are especially numerous in times of economic stress, when workers are inclined to feel that some one should take care of them.

Perfumery Assn. Elects

Benjamin Bridge, Jr., president of Bridge Chemical Co., Chicago, was elected president recently of the Chi-



BENJAMIN BRIDGE, JR.

cago Perfumery, Soap and Extract Assn. Charles E. Arch of Sheffield Tube Corp. was named vice-president and Ellis Johnson of Hazel-Atlas Glass Co., and Z. D. Sappenfield of Allen B. Wisley Co., were elected secretary and treasurer, respectively.

L. F. Haznaw of Florasynth Laboratories, Inc., Chicago division, was appointed chairman of the public relations and publicity committee.

Demarest Resigns at Dreyer

James V. Demarest, secretary of P. R. Dreyer, Inc., New York essential oil and aromatic chemical house, resigned effective January 1, 1951. Mr. Demarest had been connected with the firm for the past fifteen years. His plans for the immediate future are to devote his time and attention to personal business matters.

Colgate Advances Smeby

Norman A. Smeby, soap department supervisor in the Cleveland district, was recently appointed district manager there by Colgate-Palmolive-Peet Co., Jersey City, N. J. For more than three years supervisor in the Cleveland district, which embraces all of northern Ohio, Mr. Smeby succeeds Don M. Madden, who becomes soap manager in the larger Cincinnati district. Mr. Smeby joined Colgate-Palmolive-Peet Co. in Minneapolis 10 years ago.

MAYPON

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**for sudsing and
deterging purposes...**

MAYPON SUPER K

and

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for

Household

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**USE...
MAYPON**
PROTEIN-FATTY ACID-CONDENSATION PRODUCT

MAYPON 4C

for

Cosmetics

MAYWOOD CHEMICAL WORKS
produced ONLY by
MAYWOOD, N. J.

Samples
and
Literature

MAYPON

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Bonham McKelvy President

Lewis F. Bonham, formerly director of advertising and sales promotion for Mennen Co., Newark, N. J.,



LEWIS F. BONHAM

was recently named president of Alfred D. McKelvy Co., subsidiary of Vick Chemical Co., New York. He succeeds Richard K. Hines who resigned to become executive vice-president of Brayten Pharmaceutical Co. McKelvy Co. makes the "Seaforth" line of toiletries for men. Prior to joining Mennen Co., Mr. Bonham was director of merchandising for Personal Products Co., Millville, N. J.

Chlorine Order M-31 Out

Chlorine producers have been ordered beginning March 1, to set aside 10 per cent of their production for "DO" rated orders and to supply as much chlorine for water purifying and sewage treatment plants in 1951, as in 1950, under terms of National Production Authority Order M-31, issued Jan. 23.

Production of marketable chlorine is estimated currently to be 6,000 tons a day, as against demand exceeding that amount.

Public health chlorine as defined by the order specifically excludes use of the material for swimming pools.

The order provides that a rated order for chlorine must specify shipment on a particular date or during a particular month which may in no case be earlier than required by the person placing the order. The pro-

ducer must schedule the order for shipment within the requested month as close to shipment date as is practicable considering the need for maximum production. The distributor must schedule the order for shipment within the requested month as close to shipment date as is practicable.

It further specifies that a producer, unless otherwise directed by NPA, need not accept a rated order that is received less than 15 days prior to the first day of the month in which shipment is requested. A distributor need not accept a rated order that is received less than 20 days prior to the first of the month in which shipment is requested.

Lifts Oil Import Ban

Import restrictions on a number of oils and oil bearing materials, including cottonseed, soybean, sunflower seed and mixtures of animal and vegetable oils, lard compound and lard substitute, soybeans and sunflower seeds, were lifted Jan. 15, it was announced last month by the U. S. Department of Agriculture. Since the Government no longer owns any soybean stocks and since domestic prices for these materials are high, it is believed the market can absorb any imports that might be attracted by the action, a government spokesman said. All of the commodities removed from the control list have been excluded since before the end of World War II.

Among the commodities still under import ban are: butter oil, peanut oil, flaxseed, flaxseed screenings and linseed oil.

Penick Names Allison

The appointment of E. G. Allison as manager of the company's essential oil division was announced recently by S. B. Penick & Co., New York. He has been with the firm for more than 20 years, having served as special representative in the midwest and as one of the company's directors of sales. He has been actually in charge of the essential oil division for some months. A plant for the distillation of essential oils is maintained by Penick at Montville, N. J.

G. L. Schultz Shulton Head

George LaVie Schultz recently succeeded his father, the late William L. Schultz, as president of Shulton,



GEORGE L. SCHULTZ

Inc., New York. W. L. Schultz, president and founder of the firm died Nov. 13.

The new Shulton president began his career with the firm 14 years ago, after graduation from high school. He received a B.S. degree in chemical engineering in 1940 from Princeton University, having previously worked summers and vacations for the company during his undergraduate days.

Mr. Schultz was appointed plant manager over 500 employees shortly after his graduation from college, and for the next five years he was in charge of organizational work, manufacturing and personnel methods. In 1942 he was made vice-president in charge of all manufacturing. He also contributed to the work of planning and designing the new Shulton plant in Clifton, N. J.

He was in complete charge of the war products division of the company during World War II. The division produced precision made items for the aircraft industry and the U. S. Army and Navy ordnance departments.

More recently Mr. Schultz has been concerned with sales and the integration of the accounting and manufacturing departments. In addition to supervising Shulton's expanding chemical research, he has been in charge personally of all export operations including plants in Toronto, Mexico City and Havana, Cuba.

The toilet goods industry is again faced with the threat of shortages in basic perfume materials. New and unexpected curtailments are already in force. Yet the exact pattern of shortages that developed during the previous emergency period is unlikely. How is the manufacturer to guide his thinking?

One thing is clear. A good many synthetic essential oils of domestic manufacture are going to be pressed into new uses in the months to come. In a sudden emergency the manufacturer may be hurried into adopting a replacement oil without adequate testing. If he plans wisely now he will be able to meet the emergency with confidence.

Schimmel synthetic essential oils, effective, economical and freely available can be your answer to new shortages. Investigate them now.

SCHIMMEL & CO., INC.

Schimmel & Co., Inc.
601 West 26th Street
New York 1, N. Y.

Please send me a copy of your free booklet—"SYNTHETIC PERFUME OILS."

Name

Firm

Street

City..... Zone..... State.....



Blum in Lever Post

John A. Blum, previously with R. H. Macy & Co., New York, where he held executive positions in the merchandising, buying and publicity divisions, recently joined Lever Brothers Co., New York, as assistant to Jervis J. Babb, president.

Ask Soda Ash Expansion

An application for a Necessity Certificate to erect facilities to expand soda ash production by 200,000 tons per year was filed in Washington recently by Solvay Process Division of Allied Chemical & Dye Corp., New York. The contemplated expansion would be made at Solvay's Baton Rouge, La., plant. Estimated time to complete the expansion would be 18 months to two years from the date of issuance of the Necessity Certificate, depending upon availability of materials necessary for construction.

More Emery Oleic Acid

Emergency expansion of oleic acid production to meet increased demand was announced recently by Emery Industries, Inc., Cincinnati. Increased production is in the form of a new single-distilled product, "Emersol 212 Elaine," which is said to be similar to "Emersol 210 Elaine," except for a 4.0 maximum unsaponifiable and a 96 percent minimum free fatty acid content as compared with a 2.5 minimum unsaponifiable and a 97 percent minimum free fatty acid content for "Emersol 210."

The expanded production of "Emersol 212 Elaine" supplements the production of regular, single-distilled grades, high quality double distilled grades and premium quality. Samples are available on request.

Soap Progress Errors

Several errors of fact occurred in the article, "Soap Progress Since 1900," which appeared in the January issue of *Soap & Sanitary Chemicals*. On page 27, the 1917 figure for oil and fat consumption for soap making should have been 1,268,166,000 pounds and the annual consumption rate of fats and oils in 1900 should have read 900,000,000 pounds. On



B. T. Bush, associated with Bush Aromatics since its inception, was recently appointed manager of the Bush Aromatics Division of Dow Chemical Co., with headquarters in Jersey City, N. J. He succeeds Dr. Arthur A. Behr, who resigned in order to devote more time to personal business affairs. Dr. Behr previously had been director of aromatics research for Dow Chemical Co.

page 30, an automatic soap press was described which was said to be able to turn out "a thousand times" as many cakes of soap as a 1900 press with a production speed of 1400 cakes per hour. The contemporary press turns out 10 times as many soap cakes as the 1900 model.

New Fatty Amine Plant

Construction of a plant to produce amines, amides and nitriles from animal and vegetable oils at its Chem-oil plant in Kankakee, Ill., was announced recently by General Mills, Inc., Minneapolis. The new unit is expected to be in operation in the fall of 1951. Completion of the plant, which was designed by the research laboratories of General Mills, marks the company's entry into the fatty amine industry. It has been a major producer of vegetable oil fatty acids since 1948.

Fenning in Lever K. C. Post

Dan Fenning has been appointed division sales manager of Lever Brothers Co., New York, in Kansas City, it was announced recently by R. L. Jones, western regional manager. Mr. Fenning began his career with the firm as a salesman in Tulsa, later representing Lever in Oklahoma City and St. Louis. Most recently he was field supervisor in St. Louis.

New P&G Sales Office

Procter & Gamble Distributing Co., Cincinnati, recently leased 3,000 square feet of floor space for its Long Island sales and executive offices in the two story building being completed at Queens Boulevard and 76th Road, Forest Hills, N. Y.

P&S Name Micek

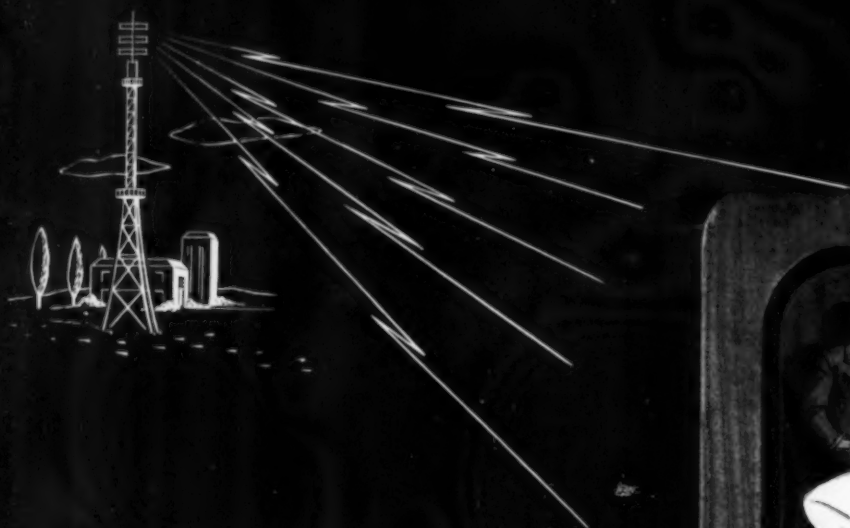
The appointment of Frank J. Micek as technical sales representative in the midwest territory for Polak & Schwarz, Inc., New York, was announced recently. The new member of the P&S Chicago office is a graduate chemist of the University of Illinois and the Illinois Institute of Technology.

C-P-P Changes in Atlanta

Frank W. Reif and Lionel E. Lee, divisional manager and Atlanta district sales manager, respectively, were assigned recently to new posts by Colgate-Palmolive-Peet Co., Jersey City, N. J. Mr. Reif, a veteran of 31 years with the firm, the last five of which he has spent in Atlanta as divisional manager, has been transferred to New York, where he takes over management of the company's largest division. Mr. Lee has been named assistant sales manager of the soap department. He went to Atlanta in 1944 as sales manager. Mr. Lee has been with Colgate-Palmolive-Peet for 23 years, 17 of which were spent in the Jacksonville district.

R. Baker Weidinger has been appointed Mr. Reif's successor in Atlanta. Formerly he was located at the Jersey City headquarters. Mr. Weidinger is a veteran of 27 years with the company. The new Atlanta district sales manager is Roscoe G. Harris, for the past 11 years district manager in Memphis, Tenn., and with C-P-P for 31 years.

The southern division and Atlanta district offices of Colgate-Palmolive-Peet Co. recently were moved to Suite 483 of the new Eight-O-Five Peachtree Street Building. The southern divisional industrial department for the southern division and the Atlanta district are located in the new quarters, according to W. V. Pentecost, head of toilet articles department.



**Making the
invisible
visible...**



*Makes white fabrics whiter
and many colored fabrics brighter!*

ANTARA BRIGHTENER

A

**—a colorless, fluorescent dye
for use in soaps and detergents**

The addition of ANTARA BRIGHTENER A—to a soap or detergent compound—makes white fabrics whiter, many colored fabrics brighter. The reason is both scientifically sound and relatively simple.

As with any dyestuff of good quality, this new, colorless dye readily attaches to fabrics. However, it absorbs only the invisible ultra-violet light rays. These rays are then transformed into a visible blue fluorescence. Result—for any washed fabric: a more luminous white—or a brightened shade of the original color. This new fluorescence is the same as that which occurs on your television screen—where fluorescent action transforms the invisible waves into visible light.

Brightener A may be added to any soap or detergent product. It shows no tendency toward "build-up" under repeated washings, maintains uniformity of cast regardless of concentration, obviates the necessity for bluing.

For technical data sheets—covering usage in soap and synthetic detergents and also in commercial laundry practice—kindly address Department 15.

ANTARA PRODUCTS

DIVISION OF

GENERAL DYESTUFF CORPORATION

435 HUDSON STREET • NEW YORK 14, NEW YORK

BRANCHES

Boston • Providence • Philadelphia • Charlotte, N.C. • Chicago • Portland, Ore. • San Francisco

IN CANADA: Chemical Developments of Canada Limited, Leaside, Toronto 17

Package Forum Dates

The 13th annual forum of the Packaging Institute will be held Oct. 22-24, 1951, at the Hotel Commodore, New York, it was announced recently by Charles O. Kendall of E. R. Squibb & Sons, Brooklyn, president of the institute.

Hooker Executive Changes

Edwin R. Bartlett, president since 1945, was recently elected by the directors chairman of the board of Hooker Electrochemical Co., Niagara Falls, N. Y. R. Lindley Murray was named president. He has been with the firm since 1916, a director since 1937, and is a vice-president and director of Hooker-Detrex, Hooker subsidiary. The newly elected chairman has been with Hooker since 1907 in various capacities. He was made a vice-president and director in 1924. He is also president and a director of Hooker-Detrex.

Wyandotte Research Center

Construction of a new research center and expansion of the research and development activities of Wyandotte Chemicals Corp., Wyandotte, Mich., was announced recently by Robert B. Semple, president. Housed in a functionally engineered, two-story structure of modern architectural design, to be constructed near the company's administration building in Wyandotte, the center will be approximately a city block long and half a block wide. It will be operated under the general direction of Dr. Thomas H. Vaughn, vice-president in charge of research and development. Occupancy is scheduled for mid-1952.

A consolidation of Wyandotte's many research and development activities will be possible at the new center. It will also enable the firm to expand materially its scientific and technical staff to handle not only long-range research within the organic and inorganic chemical fields, but special research projects assumed by the company in behalf of the national defense program.

Research investigations concerned with detergency in the industrial, textile and food technology

fields; atomic tracers; bacteriology; physics and electronics will be carried on by scientific research groups working at the new center.

Offer Aid on Controls

The recently organized Eastern Fat and Oils Brokers Assn. representing a majority of the tallow and grease brokers in the East have wired to Nelson Eddy, chief of the Fats and Oils Division, offering their services if required concerning any contemplated legislation pertaining to controls of fats and oils.

DCAT Dinner Mar. 8

The 25th annual dinner of the Drug, Chemical and Allied Trades Section of the New York Board of Trade will be held at the Waldorf-Astoria Hotel, March 8.

Sen. Gillette Soap Bills

Three bills affecting soap and detergents were introduced in the U. S. Senate, recently, by Senator Guy M. Gillette, Democrat of Iowa. Similar bills were introduced last year.

Senate Bill 345 calls for an amendment to the Federal Food, Drug and Cosmetic Act, which would eliminate the specific exemption of soap from the provisions of the Act. It would also require labeling soaps or other detergents as to ingredients and their quantities. The bill was referred to the Committee on Labor and Public Welfare.

A second bill, 343, similarly would amend the Federal Food, Drug and Cosmetic Act by adding a new section requiring an ingredient statement on the label with percentages of each ingredient.

Senator Gillette's third bill, S.B. 344, provides various penalties and enforcement procedures in dealing with "contrabrand" household cleansers, which are defined as articles for use in washing, cleansing, deodorizing, renovating, bleaching or polishing. A household cleanser is considered contrabrand if it contains poisonous or deleterious substances; if the container is composed of such substances or may be injurious under prescribed conditions of use; or, if the labeling is false or misleading in any particular.

Geisinger Diamond V. P.

A. L. Geisinger, president of Martin Dennis Co., Newark, N. J., was recently appointed vice-president of Diamond Alkali Co., Cleveland, parent company of Dennis. He joined Diamond in 1919, having previously been with Philadelphia Quartz Co. In his new post he is in charge of the firm's activity in the organic chemical field.

Perfumers Elect Fielding

Fred W. Fielding of Synfleur Scientific Laboratories was elected president of the American Society of Perfumers, at the group's annual meeting Jan. 17, at the Advertising Club, New York. Other officers chosen were Albert Dillinger, Van Ameringen Haebl, Inc., vice-president; William H. Barlow, Orbis Products Corp., secretary, and R. B. Houk, Dodge & Olcott, Inc., treasurer. Frank Spitaleri of Polak's Frutal Works, Inc., was elected to the board for a three-year term.

P&G Expands in Canada

Climaxing an expansion program that began in 1944, Procter & Gamble Company of Canada, Ltd., Hamilton, Ont., announced recently the awarding of a contract of approximately \$2,000,000 for the installation of new and additional equipment and the expansion of present facilities. According to John R. Baillie, vice-president and plant manager, the latest step in the expansion program should be completed within a year and a half if world conditions and other factors permit. He said that the modern equipment being installed would add considerably to the production capacity of the soap and food producing operation.

Provo Construction Co., Ltd. of Hamilton was awarded the contract for the work at the P&G Canadian plant. Equipment to be installed includes tanks, pumps, compressors, motors, conveyors, process and high pressure steam piping, power wiring and insulation. Provo will complete this month two previous contracts of a similar nature amounting to about \$2,500,000 awarded in 1948 and 1949 by Procter & Gamble.



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Lard Oil	Lanolin
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RAW MATERIAL

MARKETS

As of February 7, 1951

THE upward movement of prices of the soap maker's most important raw materials, oils and fats, continued unchecked during the past month. Tallow inches forward to 18½ cents a pound for the fancy grade, an advance of one and one-half cents over price quoted in this space a month ago. A year ago tallow was bringing 6⅜ cents a pound.

An even sharper price increase was registered in recent days by coconut oil. It is now currently listed at 21½ cents a pound for the crude oil on the Pacific coast, which is three and one-half cents higher than the price of the first week in January. In the early days of February a year ago coconut oil was selling for around 14½ cents a pound. Copra prices have risen markedly in the past 30 days, with the current quotation \$280.00 a ton on the Pacific coast, up from the \$235.00 a ton price of January 5, 1951. Copra and coconut oil were among the items specifically exempted from price control in the recently issued price freeze announced by the Government. A number of other imported oils used by soap makers were accorded similar treatment by the order.

That the recent wave of price increases was general may be gathered from the fact that all vegetable oil prices are up from two to four cents from their levels of shortly after the first of the year. Crude corn oil, for example, is now said to be selling for 25¼ cents a pound, Chicago basis. On approximately this date last month corn oil was bringing 22¾ cents a pound. Similarly, cottonseed oil, crude basis, is currently quoted at 25½ cents a pound, as compared with a figure of 22¼ cents a pound back on January 5.

Other oils and fats showing substantial price increase include soybean oil, which is now reported bring-

ing 22 cents a pound. Last month at this time soybean was 19⅞ cents per pound, both prices on the crude basis. Another oil finding higher price levels is crude peanut oil. At 27 cents a pound peanut oil is up four cents from the early January price.

No exception to the oils and fats experiencing the inflationary trend in prices is lard. Currently selling for 19¼ cents a pound, the material has moved all the way up from slightly better than 14¾ cents a pound in the past month.

Production of fats and oils in the year which began Oct. 1, 1950 probably will be slightly greater than the record output of 12 billion pounds produced a year earlier, according to a recent summary contained in the *Fats and Oils Situation*, published by the U. S. Department of Agriculture. Output of tallow, greases and lard will be moderately heavier than a year ago, while production of vegetable oils may decline slightly. A major reduction is anticipated in cottonseed oil, which will not quite be offset by increases in production of soybean and peanut oils.

The 1950 fall pig crop totaled 41 million, nine percent larger than a year earlier and the largest fall pig crop since 1943. The 1950 spring and fall pig crops totaled 101 million head, five percent more than a year earlier. Preliminary reports indicate production of Federally inspected lard in Oct.-Dec., 1950 of about 610 million pounds, three percent larger than a year earlier. The spring, 1951, pig crop may be six percent over that of 1950, and the largest since 1943.

The output of tallow will probably increase in 1950-51 as somewhat more cattle are expected to be slaughtered in 1951 than in 1950, according to the U.S. Department of Agriculture. Numbers of cattle on farms have now expanded sufficiently to provide for a moderate increase in slaughter and a

further increase in cattle inventory.

One factor in the oils and fats situation which has not been clarified, but which will have an important bearing on available supplies of oils and fats in the United States is the export picture. Although in 1949, nearly two billion pounds of fats and oils were exported by the U. S., the rate of export was reduced somewhat in 1950. However, exports in 1950 were at a high level. Exports will probably be continued at a high rate in 1951, because of the needs of the increased population of Europe and the scarcity of export supplies of fats and oils in some other export areas.

No need for allocation or other limiting controls on oils and fats at this time was seen by Ralph S. Trigg, Administrator of the Production and Marketing Administration of the U. S. Department of Agriculture in a recent address before the annual meeting of the Association of American Soap and Glycerine Producers. He pointed out that in all future consideration of the possible need for controls, the government would be guided by certain basic principles. First, no controls would be imposed unless they were thought to be absolutely necessary. Second, it is believed that it is essential to protect the economy by permitting maximum possible production by the domestic industry of the U. S. Consideration, however, will be given to the essential needs of "our friends" in other parts of the world, Mr. Trigg said.

Price advances on a number of essential oils have been reported within recent days. Those affected include eugenol, which went from approximately \$3.10 to \$3.40; copaiba balsam, up from \$1.75 to \$2.00 a pound; oil of cedar leaf at \$3.00 has advanced from \$2.85; oil of lemongrass is up similarly from \$4.50 to \$5.00.

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TRADE MARKS

The following trade marks are published in compliance with section 13 (a) of the Trade Mark Act of 1946. Notice of opposition must be filed within 30 days of publication and a fee of \$25 must accompany each notice of opposition.

Mentor — This for sudsing cleaner, cleaners and detergent for industrial and household use. Filed Jan. 20, 1950 by Colgate-Palmolive-Peet Co., Jersey City, N. J. Claims use since Jan. 6, 1950.

King's Barbicide — This for chemical preparation used as a disinfectant and household germicide. Filed Jan. 26, 1950 by King Research, Inc., Brooklyn. Claims use since Jan. 6, 1947.

Fuller—This for furniture polish. Filed Dec. 5, 1947 by Fuller Brush Co., Hartford, Conn. Claims use since May 12, 1924.

Ant-Bane—This for ant powder. Filed Nov. 15, 1948 by B. Heller & Co., Chicago. Claims use since July 26, 1911.

Dynamice—This for rodenticides. Filed June 8, 1949 by Velodent Products Manufacturing Co., New York. Claims use since Jan. 5, 1949.

Ticks Off—This for insect repellent. Filed Mar. 13, 1950 by Whitmire Research Laboratories, Inc., St. Louis. Claims use since Feb. 27, 1945.

B&A—This for floor wax. Filed Dec. 8, 1948 by B. Altman & Co., New York. Claims use since 1915.

Chlorafal—This for liquid deodorant for household and industrial use. Filed Aug. 30, 1949 by Hysan Products Co., Chicago. Claims use since March, 1939.

Max-Kill—This for insecticides. Filed Sept. 3, 1949 by Research Products Co., Kansas City, Mo. Claims use since Aug. 10, 1949.

Dakem—This for moth-proofing compound. Filed Sept. 12, 1949 by Davison Chemical Corp., Baltimore. Claims use since Aug. 5, 1949.

Black Panther—This for insecticides in the form of spray and dust. Filed May 10, 1950 by Benjamin D. Smith, Jr., Sanford, N. C. Claims use since February, 1949.

Mult-Aply—This for antiseptics, bactericides and germicides. Filed June 28, 1948 by C. A. Mosso Co., Chicago. Claims use since Jan. 2, 1934.

Tresemme—This for shampoo. Filed May 27, 1948 by Godefroy Manufacturing Co., St. Louis. Claims use since Nov. 28, 1947.

Wav-O-Bob—This for liquid shampoos. Filed June 11, 1948 by Rene St. Claire Products Co. and Gintone Laboratories, Memphis. Claims use since Mar. 3, 1927.

Ingram—This for tooth powder. Filed May 12, 1949 by Bristol-Myers Co., New York. Claims use since Apr. 6, 1949.

B&A—This for dentifrices. Filed May 9, 1950 by B. Altman & Co., New York. Claims use since 1915.

Laundreez—This for laundry detergent compound. Filed Dec. 10, 1949 by Thomson Chemical Co., Lima, O. Claims use since Apr. 8, 1948.

Little Tailor—This for dry cleaning composition. Filed Dec. 19, 1949 by Cellowax Co., Baltimore. Claims use since Dec. 8, 1949.

Septi-Gard—This for disinfectant. Filed Jan. 21, 1949 by Thompson-Hayward Chemical Co., Kansas City, Mo. Claims use since Apr. 1, 1946.

Zir—This for paste preparation for the control of ants. Filed Aug. 9, 1949 by Zenith Industrial Research Co., Long Beach, Calif. Claims use since May 6, 1949.

Tite-Lox—This for floor sealer. Filed Aug. 3, 1948 by Sherwood Products Co., Lansing, Mich. Claims use since July 5, 1937.

Bulan—This for insecticides. Filed Nov. 30, 1949 by Commercial Solvents Corp., New York. Claims use since Oct. 10, 1949.

Chase's—This for ant and roach powder. Filed Jan. 13, 1950 by Chase Products Co., Maywood, Ill. Claims use since January, 1929.

Alwinol—This for fulling and scouring soaps and detergents. Filed Oct. 25, 1949 by Alwin Color and Chemical Co., Saugus, Mass. Claims use since Sept. 16, 1949.

Borsuds—This for soap powder. Filed Feb. 16, 1950 by C. B. Dolge Co., Westport, Conn. Claims use since Dec. 1, 1949.

Janisan—This for carnauba wax water emulsion material for use on floors. Filed Nov. 29, 1947 by Janitorial Supply Co., Passaic, N. J. Claims use since January, 1946.

Detergicide—This for liquid germicidal and fungicidal composition containing a quaternary ammonium compound and a synthetic non-ionic detergent for cleaning and sterilizing surgical instruments. Filed Jan. 20, 1948 by United States Catheter & Instrument Corp., Glens Falls, N. Y. Claims use since Sept. 15, 1947.

Sindar—This for germicides. Filed Feb. 27, 1948 by Sindar Corp., New York. Claims use since Jan. 2, 1948.

Anti-Cay—This for antiseptic

tooth powder. Filed May 26, 1949 by Purex Products, Inc., Baltimore. Claims use since May 3, 1949.

Scorpiocide—This for pest killing chemical. Filed Jan. 21, 1950 by Lien Chemical Co., Franklin Park, Ill. Claims use since Aug. 4, 1949.

PMMI Meets Apr. 16

The semi-annual meeting of the Packaging Machinery Manufacturers Institute will be held at the Hotel Dennis, Atlantic City, N. J., Apr. 16, it was announced recently. The Hotel Dennis will be the headquarters hotel for PMMI members during the National Packaging Show in Atlantic City.

In Phila. Quartz Post


Philadelphia Quartz Co., Philadelphia, recently announced the appointment of Francis L. Sullivan as sales representative in the Metropolitan New York area. Presently he makes his headquarters in Newark, N. J., having earlier been located in the Philadelphia area, to which he was assigned following completion of a course at the company's laboratory.

Pepsodent Changes

A. B. Peterson, Detroit divisional sales manager of the Pepsodent Division of Lever Brothers Co., New York, was recently appointed assistant general sales manager of the division. He has been with Lever since 1934, joining the company at Cambridge. After serving in the sales department he entered the selling field, holding posts in the New England and Detroit divisions. He then spent five years in market research and sales supervision, returning to sales as field supervisor of the Kansas City division. In 1949, he was appointed Detroit divisional sales manager. He is making his headquarters in New York.

Leslie A. Sauers was recently appointed national chain drug sales manager of Pepsodent. He joined Lever in 1928 and became national field sales manager in 1946.

Richard M. Kelly, formerly assistant to the director of public relations of Lever in charge of product promotion, recently joined the New York advertising firm of William Esty Co.



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BIDS

AND AWARDS

Soap Award to Tennessee

Tennessee Soap Co., Memphis, received the award on 300,000 pounds of laundry soap with a bid of \$35,190 in a recent opening for miscellaneous supplies by the Oakland, Calif., Quartermaster Procurement Agency.

Dishwashing Comp. Bids

The following bids were received in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C., on 15,000 pounds of dishwashing compound: Industrial Soap Co., St. Louis, items 1 and 2, 12.5 cents; Washington Chemical Sales, Washington, D. C., item 1, 10 cents a pound, item 2, 9.5 cents; Kelite Products, Mineola, N. Y., item 2, 12.5 cents; National Cleanser Products Co., New York, item 2, 10.75 cents.

FSS Wax Bids

The following bids were received on one item of 11,000 gallons and another of 6,000 gallons of water emulsion type floor wax in recent openings for miscellaneous supplies by the Federal Supply Service, Washington, D. C.

Veneer-O-Wax Corp., Camden, N. J., item 1, 58 cents a gallon, item 2, 73 cents; Monarch Chemical Laboratory, Baltimore, item 1, 74 cents, item 2, 85 cents; Walter G. Legge Co., New York, items 1 and 2, \$3.10 "Leco 3" safety floor polish; T. F. Washburn Co., Chicago, item 1, \$1.40, item 2, \$1.47; Midland Laboratories, Dubuque, Ia., items 1 and 2, \$2; Fort Worth Chemical Co., Fort Worth, Tex., item 1, \$1.04, item 2, \$1.11; Chemical Manufacturing and Distributing Co., Easton, Pa., item 1, 81 cents, item 2, 95 cents; Astor Supply Co., New York, item 1, \$1.52, item 2, \$1.66 (Johnson's "Green Label"); Buckingham Wax Co., Long Island City, N. Y., item 1, 94.9 cents, item 2, 98.9 cents; Puritan Chemical Co., Atlanta, Ga., item 1, \$1.03, item 2, \$1.08; John C. Stalford & Sons, Baltimore, item 1, \$1.25, item 2, \$1.30; Vestal, Inc., St. Louis, item 1, \$1.65, item 2, \$1.72; Wilbert Products Co., New York, item 1, \$1.13, item 2, \$1.10; Paule Chemical Corp., Charlestown, Mass., item 1, \$1.65, item 2, \$1.75; Gerson-Stewart Corp., Cleveland, item 1, 74 cents; Peerless Chemical Co., Detroit, item 1, \$1.49; American Wax Co., College Point, N. Y., item 1, \$1.58, item 2, \$1.68; Westboyd Chemical Co., Calumet City, Ill., item 1, 82 cents; Sanitek Products, Los Angeles, item 1, \$1.13, item 2, \$1.28; West Disinfecting Co., Long Island City, N. Y.,

item 1, \$1.50; R. M. Hollingshead Corp., Camden, N. J., item 1, 87.3 cents, item 2, 99.3 cents; Woodlets, Inc., Portland, Pa., item 1, \$1.69, item 2, \$1.76; Dixie Janitor Supply Co., Washington, D. C., item 1, 85 cents; Baer Paper Co., Baltimore, item 1, 98 cents, item 2, \$1.11; Windsor Wax Co., Hoboken, N. J., item 1, \$1.07, item 2, \$1.17; Huntington Laboratories, Huntington, Ind., item 1, \$1.55, item 2, \$1.75 ("Falcon" 14 percent wax); Janitors Supply House, Baltimore, item 1, 82 cents, item 2, 93 cents; Trio Chemical Works, Brooklyn, item 1, \$1.12, item 2, \$1.20.

Oakland QM Soap Awards

Andrew Jergens Co., Cincinnati, received the award on 918,432 cakes of "Woodbury" toilet soap with a bid of \$35,589.24 in a recent opening for miscellaneous supplies by the Oakland (Calif.) Quartermaster Procurement Agency. Awards by the same agency recently went to Colgate-Palmolive-Peet Co., Jersey City, N. J., on the following items: 101,760 tubes of "Colgate" tooth paste, 82,944 cans of "Colgate" tooth powder, 22,032 tubes of "Colgate" shaving cream, 52,704 tubes of "Palmolive" shaving cream, 30,240 tubes of "Colgate" lather shave cream, and 32,024 tubes of "Palmolive" lather shaving cream, \$60.453.-22; 20,000 bars of "Palmolive" toilet soap and 668,800 bars of "Jasmine" toilet soap, \$28,942.20.

P. O. Auto Soap Bids

Among the bids received on automobile soap in a recent opening for miscellaneous supplies by the Post Office Department, Washington, D. C., were the following: Purity Soap & Chemical Co., Philadelphia, item 1, 9.5 cents, 2, 8.65 cents, 3, 7.6 cents; National Chemical Laboratories of Pennsylvania, Philadelphia, item 1, 12.5 cents, 2, 10.5 cents, 3, 9.5 cents; Knoxall Corp., Indianapolis, item 1, 17 cents, 2, 16 cents, 3, 14 cents; General Soap Co., Chicago, item 1, 12.5 cents, 2, 11 cents, 3, 10.75 cents; Trio Chemical Works, Brooklyn, item 1, 12 cents, 2, 11 cents, 3, 9.4 cents; R. M. Hollingshead Corp., Camden, N. J., item 1, 59 cents, 2, 19 cents, 3, 18 cents; E. F. Drew Co., Boonton, N. J., item 3, 9.69 cents; Clifton Chemical Co., New York, item

1, 14 cents, 2, 11 cents, 3, 8.75 cents; Northport Soap & Chemical Works, Seattle, item 1, 23 cents, 2, 18 cents, 3, 16 cents; Fischer Industries, Inc., Cincinnati, item 1, 9.33 cents, 2, 7.38 cents, 3, 6.22 cents; Harley Soap Co., Philadelphia, item 1, 12 cents, 2, 10.4 cents, 3, 8.9 cents; Davies-Young Soap Co., Dayton, O., item 1, 12.5 cents, 2, 10.4 cents, 3, 9.4 cents.

Soap Award to Armour

Armour & Co., Chicago, received the award on 1,137,500 bars of toilet soap with a bid of \$36,601.25 in a recent opening for miscellaneous supplies by the Chicago Quartermaster Depot, Department of Defense, Washington, D. C.

N. Y. Navy DDT Bids

Bids on an unspecified quantity of DDT in a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York, were received from Michigan Chemical Corp., St. Louis, Mich., item c, 58.85 cents and item e, 57.93 cents; Montrose Chemical Corp., New York, item a, 53.6 cents, alternate 52.3 cents.

Canal Soap Awards

Awards announced in connection with recent openings for miscellaneous supplies by the Panama Canal, Washington, D. C., include those on: soap, Janitors Supply House, Baltimore, item 51-S-1530, 6.2 cents; Swift & Co., Chicago, item 51-S-1674-10, 17.27 cents; N. Schneider & Sons, Brooklyn, item 51-S-1550, six cents; Iowa Soap Co., Burlington, item 51-S-1575, 19 cents; Fitzpatrick Brothers, Chicago, item 51-S-1675, 13.73 cents; Trio Chemical Works, Brooklyn, item 51-S-1709, 53.6 cents; National Chemical Laboratories, Washington, D. C., item 51-S-1715, 35.9 cents; Harley Soap Co., Philadelphia, item 51-S-1716, 9.4 cents; Tesco Chemical Co., Atlanta, item 51-S-1750, 5.7 cents, item 1755, 5.5 cents; Hershey Estates, item 51-S-1920, 19 cents, U. S. Soap Manufacturing Co., item 51-S-1934, 18 cents.

Economics Laboratory, St. Paul, Minn., received the award on item 51-C-1576-175, compound for use in mechanical dishwashing machines.

BUILT FOR TWENTY-FOUR HOURS PER DAY LOW COST CONTINUOUS SOAP PRODUCTION

**For every
operation in
*Soap Making***

For continuous mixing, milling, plodding, cutting,
pressing and wrapping every kind of soap.

- (A) TILTING AMALGAMATOR
Other types available.
- (B) TYPE E STEEL ROLL MILL
With 18" x 40" water cooled rolls.
- (C) GIANT PLODDER — Capacity 4000 to 6000 pounds per hour.
- (D) VAN BUREN AUTOMATIC CUTTER
Continuous cutting without scrap.
Other types available.
- (E) SAFETY AIR PRESS
Easier to operate. Produces consistently uniform cakes.
- (F) VAN BUREN AUTOMATIC SOAP WRAPPERS. Will wrap 200 to 300 cakes per minute.

HOUCHIN SOAP MACHINES LEAD ALL OTHERS IN DOLLAR-FOR-DOLLAR VALUE.

Strongly constructed to prevent expensive breakdown losses which too often occur with machinery built to meet a price.

HOUCHIN MACHINES have HEAVIER FRAMES, HEAVIER SHAFTS, HEAVIER GEARS, and HEAVIER BEARINGS. They operate on a twenty-four-hour continuous production basis, day after day, month after month, year after year, indefinitely.

FIGURE THESE FACTS INTO YOUR ESTIMATE OF PRODUCTION COSTS. Then reap the benefit later.

A great majority of the world's leading soap makers, who know value and demand the most for their money, use Houchin Machines.

Write for full descriptions and prices of any soap making machinery you need for economical production.

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Manufacturers of Soap Making Equipment for over Three-Quarters of a Century.
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Oxidation of Soap Fats

PURIFICATION processes of raw materials sometimes leave the product in a state which is very susceptible to deterioration, thus necessitating further processing to counteract such a tendency. Matter in its natural environment contains agents which serve to preserve its state. Removal of these agents in purification processes causes a need for certain additions to improve stability. Lemongrass oil deteriorates on storage because it is readily subject to autoxidation, and consequently, its germicidal value is reduced. This reduction takes place at relatively greater speed in purified oil than in crude oil.

In the case of oils and fats, and soaps derived from these materials, "preservation" processes are especially important. The susceptibility of fats to oxidation and rancidification is not removed entirely after the fats have been saponified. Oils and fats, particularly those having a large number of unsaturated molecules, will decompose partially when oxygen is present, and even more so if light is present also. The lower fatty acids similarly are responsible for rancid odors, but these odors develop almost exclusively in palm kernel and coconut oils and in soaps made from these oils.

Oils such as coconut oil, which has a very small content of fatty acids having more than one double bond, are much more stable than oils with a high percentage of acids with from two to six double bonds in their constitution. Thus, the tendency to oxidation may be checked by reducing the content of unsaturated acids and glycerides. Hydrogenation is sometimes practiced to reduce the prevalence to oxidation to

Refining soap fats and oils sometimes destroys certain natural antioxidants present. It is therefore necessary to add inhibitors or antioxidants. The type of additive depends on the degree of unsaturation of the soap fats.

some extent, since some degree of saturation is brought about by it. However, this operation is not convenient or economical for small soap companies.

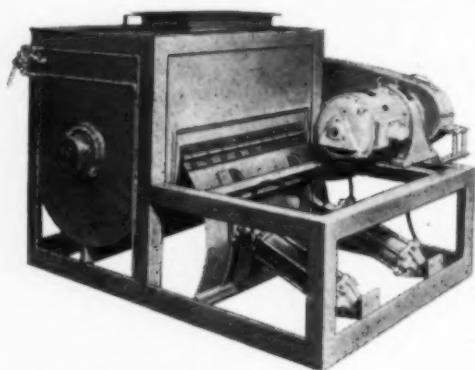
Sometimes transformations in the structure of oils and fats alter certain desirable properties of the original material which one prefers to retain in the soaps made from these oils. Therefore, only a partial "hardening" is sometimes practiced.

Although light and moisture are highly important factors in promoting oxidation and consequent rancidification, they are not the only conditions to be considered. Enzymes, metal contacts, as well as microbial interference are still other factors. The resistance of some oils to oxidation is considerably weakened in the presence of certain metals. Copper and iron are particularly undesirable contaminants, as they will promote oxidation even in the absence of light. The oleates of cobalt, manganese, copper, nickel, lead and iron accelerate the oxidation of vegetable oils in that descending order. Tin and aluminum are probably the least active of the metals tested, and the alloys of aluminum and silicon are said to be even more resistant. Obviously, tanks fabricated in aluminum alloy are more desirable for storing fats

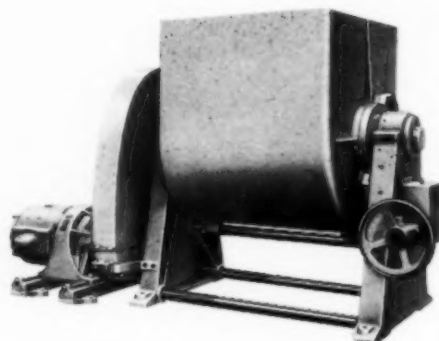
and oils. Soaps in a suitably finished condition can be packed in aluminum foil.

It is highly important to reduce to an absolute minimum the entry of metal contaminants during the manufacture of the soap. Comparatively small amounts of metallic soap will react with oxygen to form the hydroxide of the metal, regenerating the fatty acid. There are many opportunities for metal contamination during the transfer of raw materials. Oils, and soap in the various stages may take up metal from drums, tanks, pipes, etc. Thus, to reduce metal contamination, it is necessary to take many precautionary measures, such as periodic chemical control of raw materials in storage and elimination of foreign substances in oils which lead to fermentation. Furthermore, saponification must be brought about so carefully that it is absolutely certain that not even the slight traces of unsaponified fat are present, and that the caustic liquor is as free as possible from metals with deleterious effects.

Amalgamators can acquire loose iron, particularly during shut downs under humid conditions; milling rolls of iron acquire a thin film of rust not always visible to the eye, which may



• Lehmann 400 lb. Bottom Dump Amalgamator Model 40G-B. Furnished in plain or stainless steel.



• Lehmann 260-400 lb. Tilting Type Amalgamators. Furnished in plain or stainless steel.

THIS IS THE TIME TO STRENGTHEN WEAK SPOTS IN YOUR PRODUCTION

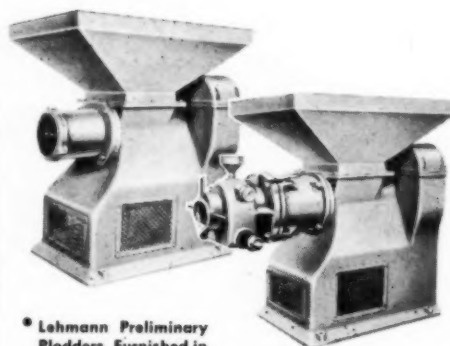
DURING this grave international crisis, every manufacturer should make all possible effort to strengthen the weak spots that exist in his production facilities. This may involve the replacement, reconditioning or modernization of important units of manufacturing equipment.

Improvement in mechanical efficiency usually saves manpower. And manpower is the crux of the Nation's defense problem. Armed forces and defense plants will take millions of men from civilian industry. Those remaining must be employed with utmost economy and common sense.

Look over your soap finishing machines now, with a critical eye. Are there any wasteful, high-cost units in your plant that should be replaced or reconditioned? If so, get in touch with us.

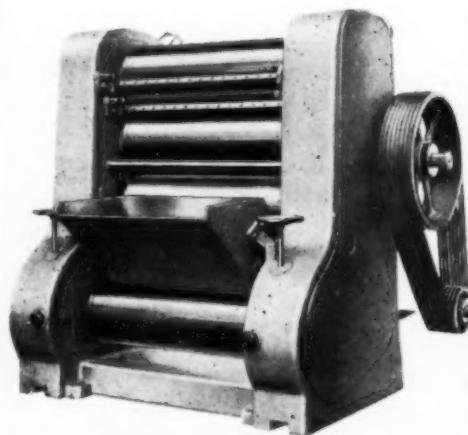
An industry operating at top efficiency is Democracy's most powerful weapon!

*Send for descriptive bulletin
of any machine shown here.*



• Lehmann Preliminary Plodders. Furnished in plain or stainless steel. Worm sizes 8" to 14".

• Lehmann Finishing Plodders. Furnished in plain or stainless steel. Worm sizes 8" to 14".



• Lehmann 912-SA Five Roll Finishing Mill—Flake or toilet soap. Full line available.



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cause considerable trouble if the mills are left to self cleaning. Brass dies are another source of contamination, and soap removed from stamping operations should be checked as a potential source of introducing foreign particles. Since plodders cannot be dismantled completely for cleaning, inaccessible parts should be made of resistant metals. Streaks in soap due to oxidation of metal surfaces can be overcome to a large extent by making comparatively inaccessible inner surfaces of stainless steel, nickel clad steel or monel metal.

Refining operations to improve the color, odor, etc., of oils and fats tend also to destroy certain natural antioxidants originally present, thus reducing potential resistance to oxidation. It is, therefore, desirable to add certain agents described as inhibitors and antioxidants. The amounts of inhibitors used are relatively small, but greater than the amount present in the

natural oil. In the case of soap, the amount of additive depends for one thing on the degree of unsaturation of the oils or fats used in the soap.

Various inhibitors have been recommended for the stabilization of fats. Inorganic substances include the sulfite, thiocyanate and hydrosulfite of sodium; sodium silicates having varying ratios of alkali and silica; the chloride, nitrate, and silicates of magnesium and also some tin compounds. Organic substances used as inhibitors include phenols, amines, and aliphatic alcohols, the latter obtained sometimes by the catalytic hydrogenation of fats. Some of the more complex phenolic substances, patented for use as antioxidants in fats and soaps, include parahydroxydiphenyl and parahydroxydiphenylether. Guaiacol or methyl catechol has also been suggested as an inhibitor. *Soap Perf. & Cosmetics* 24, No. 1, 47-52 (1951).

Make-up of Print Paste for Soil Cloth

CHEMICALS contained in a printable soil paste for standard soil cloth are divided broadly into two groups: those that constitute the soil and those that are included to give a uniform composition with printing quality. The preparation of the mixture requires several steps, as indicated:

BLACK STOCK PASTE

Parts
8.0 of ethyl cellulose is dissolved by soaking from 4 to 16 hours in 52.0 of Solvesso #3 and 4.0 of butanol. To this are added 16.0 of a lamp black and 20.0 of Spry to make a total of 100.0 parts.

The mixture is worked together by hand and then passed three times through a 3-roller water-cooled, Kent ink-grinding mill. It is then transferred to a previously weighed empty bottle, and the weight of the mixture carefully determined, as some loss is to be expected from the grinding operation. Now more Solvesso No. 3 is added to the bottle, the additional amount added being equal to 60 per cent of the net weight of the mixture actually recovered in the bottle. The contents of the bottle are mixed well with a strong

rod, and the bottle is labeled "Black Stock Paste A."

STOCK THICKENING PASTE B

Parts
2.0 of Keltex P Gum is sprinkled slowly into 64.7 of cold water while the mixture is being stirred in an Eppenbach Laboratory Homogenizer with the guard down, the speed being increased as the gum swells. In another container 3.3 of cornstarch is pasted in 30.0 of water, and this paste is then added to the Keltex P Gum paste and worked for 1 hour at the boil while being constantly stirred. The total amounts to 100.0 parts.

FINAL PRINT PASTE #26

Parts
20.0 of Black Stock Paste A and 20.0 of Nujol are stirred together by hand. In a separate container 40.0 of Stock Thickening Paste B is diluted with 19.25 of water and then added to the Nujol-Black Stock Paste A mixture gradually with stirring. The stirring is continued for a few minutes with a highspeed laboratory mixer. There are then added in order 0.5 of oleic acid and 0.25 of morpholine. The stirring is continued for 5 minutes more to ensure complete homogeneity. 100.0 parts.

Synthetics as Inhibitors

Studies of the surfactants in the presence of, or in combination with, antiseptics indicate that the non-ionics inhibit fungistatic action. This effect is to be considered in the utilization of non-ionic detergents in pharmacy and cosmetics, as these preparations will tend to become moldy.

Cationics, with their strong germicidal properties, are often powerful antiseptics; the non-ionics have no such activity. Anionic derivatives in an acid medium have a certain bactericidal action against the Gram-positive micro-organisms. When an anionic agent such as sodiumlaurylsulfate is added to an antiseptic, a synergistic action is frequently obtained. Besides having no fungistatic action in themselves, the non-ionics stimulate the growth of several kinds of molds.

Tests on the behavior of three antiseptics in the presence of the detergents listed below indicated that all the detergents, with the exception of "Carbowax 1500," decreased the fungistatic action of antiseptic added. Detergents tested were: "Carbowax 1500," "Crilex 6," "11," and "16," "Span 20," "Gelatine," "Tween 60," and "80," oleic acid, sodium oleate, "Mannite," and "Cysteine." *J. Pharm. & Pharmacology* 2, No. 10, 685-691 (1950).

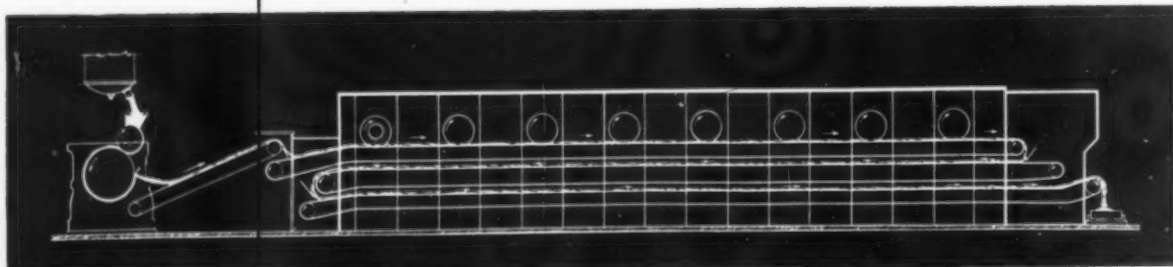
Anti-Foaming Action

Studies of the mode of action of anti-foam chemicals indicate that anti-foams act by reason of their surface activity and their ability to form a non-foaming surface. The anti-foam activity is enhanced by spreading of the anti-foam agent on the foaming liquid. There is a strong correlation between anti-foam activity and ability to spread. A liquid may show anti-foam activity even if it is completely miscible with the foaming liquid. *J. Soc. Chem. Ind.* 69, No. 12, 363-368 (1950).

The printing of soil paste is covered in specification 51 S 47 (INT) of the Bureau of Ships. C. S. Draves and O. L. Sherburne at the proceedings of the American Assoc. of Textile Chemists and Colorists (Sept., 1950).



takes both
for results



Precision engineered
chilling machine

Carefully designed dryer

IN SOAP DRYING, TOO...

Anyone who knows polo is aware that scoring depends upon two important elements—a skillful player and a trained pony. In flake soap drying there are two important factors for best results. First—uniformly formed ribbons and second—carefully controlled drying.

To make both of these possible calls for careful machine design. The uniformity of the ribbons is determined by the chilling machine, while the evenness of the drying is governed by accurate control that must be possible with the drying system.

It is obvious that ribbons which vary in width or thickness cannot be dried to uniform moisture content—even in the most carefully controlled dryer. Neither can a precision designed chilling machine compensate for a poorly engineered drying system. Both must be carefully designed and built for best results.

Ribbon uniformity is governed by the degree of precision with which the chilling machine is designed and built. Proper drying is possible only to the extent that there is a uniform circulation of heated air, for the correct drying time and at temperatures to suit the characteristics of the soap being dried.

To meet these needs, the Proctor Automatic Flake Soap System combines a precision engineered chilling machine for making ribbons and a drying system that makes possible careful control of the air circulation, temperatures, and conveyor speed to suit the individual requirements of the soap being dried.

For an informative booklet describing this system in detail, write today.

Much Proctor equipment is covered in full or in part by patents or patents pending.

PROCTOR & SCHWARTZ, INC.

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SOAP and SANITARY CHEMICALS

U.S.I. CHEMICAL NEWS

February ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1951

New Anaerobic Varnish Has Interesting Possibilities

A material which remains liquid as long as a stream of air bubbles through it, but which hardens in a few minutes when away from air, is reported under experimental investigation. With properties opposite to those of paint, which hardens when exposed to air, the new material is able to penetrate extremely small cracks before hardening.

One use proposed for the new anaerobic varnish is to eliminate the lock nut needed to hold another nut tightly on a bolt. A few drops are placed on the threads of the bolt just before the nut is screwed on; the plastic is said to harden so tightly that very considerable force is required to remove the nut. Another potential use is for sealing leaks. The material may be applied to threaded joints in pipes, where the liquid penetrates into the crevices and then hardens. Also, if painted on porous castings, it is said to enter the pores and render the casting airtight.

Needs No Catalyst or Accelerators

Ordinary varnishes, scientists who developed the new material explain, contain some solid resin dissolved in a liquid solvent. When applied to a surface the solvent evaporates and the varnish remains as a hard layer. Such varnishes are difficult to use in some applications, for example, between pieces of metal placed closely together. The solvent nearest the air evaporates, leaving a skin of varnish which seals in the remaining liquid so that it cannot escape. This new solventless "varnish," on the other hand, undergoes polymerization and hardens fully without the necessity of any evaporation. With other solventless varnishes this is generally accomplished by heating, or by adding catalysts and accelerators, to speed the process. The new anaerobic varnish reportedly remains liquid as long as it is aerated. When away from air it solidifies quickly without heating or adding catalysts and accelerators.

Hardening Can Be Speeded

When two metal strips are coated lightly with it and clamped together, the scientists claim, the joint will support ten pounds after ten minutes. After 20 hours, it will hold 100 pounds. If still faster hardening is desired, the material may be heated, up to 212 degrees F. and solidification takes place in a minute or less. Chemists found that certain metals, such as copper, iron, and silver solder, exert an accelerating action on the hardening process, even at room temperature. Therefore they can be sealed more quickly than surfaces of glass and mica, which are inert, though they, too, can be tightly fastened. Paper and fabric also may be bonded to themselves and to other materials.

Nail Polish, the Detective

Mechanics at the engine overhaul base of a large airline are reported using nail polish to help prevent serious mechanical failures. When an engine is being reassembled, each screw connection in the electrical, hydraulic, fuel and oils system, is given a dab of nail polish. If a connection starts to work loose the break in the red stripe can be detected at a glance and the connection tightened. Nail polish is used because it dries fast, is bright in color, and has a handy brush applicator.

University Tests Clarify Importance of Antibiotics, Vitamin B₁₂ in Feeds

U.S.I. Vitamin B₁₂ Supplement, Made by Primary Bacterial Fermentation, Gives Better Growth Response than Pure B₁₂

The confusion which has existed in the antibiotic-vitamin B₁₂ field during the past year is reported gradually disappearing under the influence of university tests and the recent ruling of the Feed Control Officials regarding the nomenclature of these materials. Today, leading animal nutritionists are described

as agreeing that the responses obtained from vitamin B₁₂ and antibiotics are entirely different and the requirements for each should be considered separately.

New Time-Saving Index To Government Paint Specs

In recent months many changes have been made in the government paint specifications system. Chief among these has been the grouping together of numerous military branch agency specifications under one military code as either "MIL" (Military) or "JAN" (Joint Army Navy). In addition, the government has issued several entirely new specifications.

One time-saver is the National Paint, Varnish and Lacquer Association's abstract booklet on "U. S. Government Paint Specifications Circular No. 743," issued in October 1950. This booklet includes a table of contents listed in alphabetical order according to the various government agencies. Many paint manufacturers, however, request information on a specification by its code number only, not knowing which government agency has jurisdiction over the specification in question. In cases of this kind, there is often much time lost in locating the proper abstract, since the various agencies have many different code prefixes for their specifications. A new U.S.I. "Key to Government Specifications" as abstracted in Circular No. 743 contains a cross index which enables one to identify the new prefixes or codes with the proper government agency. As an additional time-saver, it gives the designated agencies' addresses from which to procure specifications.

Offer German Patents On Synthetic Blood Plasma

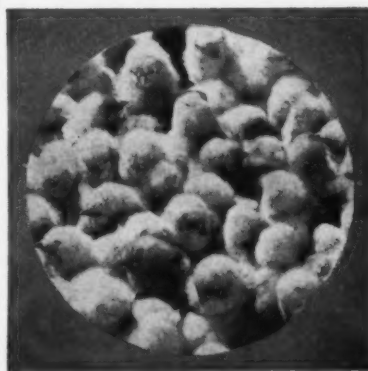
Three German patents useful in producing synthetic blood plasma are reportedly being released for general royalty-free use in this country. The patents relate to the production of polyvinyl pyrrolidone, described as an essential ingredient in producing synthetic plasma.

Laboratory Safety Manual

A newly-revised edition of a laboratory safety manual, published by a large laboratory equipment manufacturer contains information on how to prevent laboratory accidents; first aid; fire fighting; and legal responsibility for providing safety information and devices, and laboratory safety equipment.

Where Vitamin B₁₂ Should Be Used

Vitamin B₁₂ should be added to all breeder rations at levels so as to supply approximately 15 milligrams of vitamin B₁₂ per ton



Vitamin B₁₂ should be used in conjunction with all antibiotics to obtain best results in practical rations for poultry, hogs, and turkeys. It also improves and maintains a satisfactory level of hatchability.

of finished feed. University tests have shown that the addition of antibiotics to breeding rations has little if any effect on the hatchability of eggs from hens receiving this ration. Vitamin B₁₂, on the other hand, does a complete job in improving and maintaining a satisfactory level of hatchability.

MORE

New 'Artificial' Tree Yields Natural Rubber

A new "three-component tree," representing a radical change from standard rubber tree propagating in the Far East, promises to solve the blight problem on rubber plantations in the American Tropics. First seedlings known for a highly efficient root are budded with high-yielding strains.

Then the top of the tree, which is still susceptible to blight, is "made over" by bud-grafting on it an entire new cover of resistant leaves. This "blight-proofed" tree, designed for commercial plantation or farm grove, seems to fill all the principal requirements.

February ★

U.S.I. CHEMICAL NEWS

★ 1951

CONTINUED

Antibiotics, Vitamin B₁₂

Vitamin B₁₂ should be used in conjunction with all antibiotics to obtain optimal results in practical rations for poultry, hogs, and turkeys. A deficiency of vitamin B₁₂ will seriously depress any growth response which might be produced from an antibiotic. An excess of vitamin B₁₂, on the other hand, is of no benefit and is a loss to the feed manufacturer. Starter, grower and broiler mash should contain approximately 12 milligrams of vitamin B₁₂ per ton along with recommended amounts of antibiotics.

Vitamin B₁₂ should be used in all calf feeds for animals under six months of age. It is especially important in milk substitute rations for young animals not yet receiving any roughage, since the rumen is still inactive at this early age.

U.S.I. is the only major producer of vitamin B₁₂ feed supplements using a primary bacterial fermentation process which is not designed for antibiotic production. The primary fermentation product produces a growth response over and above that given by pure vitamin B₁₂. It is one of the best products for use in breeder formulations for poultry and turkeys as well as calf rations previously mentioned.

U.S.I. also has available an antibiotic feed supplement containing guaranteed quantities of bacitracin. For those feed manufacturers who desire an antibiotic and vitamin B₁₂ supplement, U.S.I. has available a combination product. These products have given results which are equal or superior to those obtained using any other products containing antibiotics or vitamin B₁₂ commercially available to the feed trade.

German Technical Reports

A new bibliography relating to captured technology from the German chemical, metallurgical and process industries has been announced. It contains over 2,000 document references with descriptive titles or abstracts and includes, in addition to a 6,000 entry subject index, author indexes, and cross-indexes with O.T.S., British, and U. S. military report numbers.

Radioactive Adrenaline

Radioactive adrenaline has been synthesized and is now being used to study effects in the body of this important drug which increases blood pressure, stimulates the heart, and is involved in transmission of nerve impulses in a part of the involuntary nervous system. Advantages of radioactive adrenaline for research are that it permits use of very small quantities of the drug, it makes possible detection of the radioactive part of the drug regardless of changes in the body, and it lends itself to detection and identification of excretory products.

First findings of tests made with the radioactive drug seem to indicate that adrenaline is removed from the blood by the body tissues, where it is converted into one or more new substances differing in properties from the original adrenaline. The new substances are then released from the tissues back into the blood stream where they are picked up by the liver and kidney for possible further change and excretion. Evidence indicating that adrenaline is converted into at least five substances in the body has already been obtained with the aid of the radioactive drug, it is reported.

New Radiation Detector Permits Direct Readings

A new atomic radiation detector, weighing less than a pound and about the size of a quart oil can, is claimed to permit direct radiation readings at a glance. It is described as having a self-contained power source. Radiation measurements are read from the monitor simply by noting the position of a pointer as it moves across a graded scale, it is reported.

The instrument is for use by engineers, scientists, doctors, and technicians who are working with or near sources of radiation, and can warn of the presence of radiation in amounts much less than those permitted by even the most stringent safety regulations, according to the engineers who developed it. This sensitivity, coupled with a continuously-visible indication, will give warning of a radiation hazard in an area while there is still time to avoid excessive exposure. This differs from the type of monitor that is read only at intervals, when it may already be too late to prevent an overdosage, the engineers said.

TECHNICAL DEVELOPMENTS

A specific and selective chlorinating agent, N-chlorosuccinimide is available now. High yields of benzoyl chloride from toluene and benzaldehyde from benzyl alcohol are reported. It is also recommended for treating contaminated water, particularly in small quantities. (No. 649)

Use of methionine in practical feed formulations is discussed in a newly-revised edition of a booklet on proteins and amino acids in animal nutrition. (No. 650)

A new household cleaner for refrigerators, ranges, washers, tiles, and other kitchen and bathroom fixtures, is said to remove discolorations from grease fumes and other similar trouble-makers and to offer remarkable resistance to further yellowing. (No. 651)

For control of industrial dermatitis, a new medicated cream described as soothing and stainless, is claimed to contain a new quaternary ammonium germicide and a greaseless base which permits rapid diffusion of ingredients over skin while still allowing pores to "breathe." (No. 652)

New multi-purpose type aniline inks reportedly give superior results on all standard types of cellophane, metallic foils, ethyl cellulose, and other specialty stocks. This one kind of ink can be used for a variety of stocks, instead of buying special inks for each type of stock. Fast dry and good adhesion are claimed. (No. 653)

New plastic-faced plywood, described as high grade exterior Douglas fir plywood bonded with phenolic adhesive and surfaced with a thermosetting resin, provides a glossy surface practically impervious to moisture, highly abrasive resistant, and having little tendency to check or show raised grain. (No. 654)

To slip a stirrer four inches wide through a one inch opening, a new "umbrella stirrer" while collapsed can be inserted through narrow-necked flasks, bottles, jars, etc., then opened wide. Its shape can be altered to produce the type of stirring wanted. (No. 655)

A glass filter paper described as being 5,000 times more effective than present commercially available filters and containing no foreign impurities has reportedly been developed. The paper made of glass fibers 1/20th the thickness of human hair, is pervious to fungus. Added industrial uses are expected for the paper because of its electrical insulating properties. (No. 656)

A transparent natural rubber finish to renew and preserve indoor and outdoor surfaces can be applied to linoleum, furniture, leather, and to walls for damp-proofing. It dries dust-free in 20 minutes and is not harmed by acids, alkalis, and soaps, according to the makers. (No. 657)

A new rust inhibiting weather-resistant coating for ship's hulls, decks, superstructure, and machinery and for structural steel has a combination of aluminum pigments with potassium-barium chromate. (No. 658)

PRODUCTS OF U.S.I.

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Ethyl Acetoacetate
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Riboflavin Concentrates
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Aroflat®—for special flat finishes

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Ester Gums—all types
Natural Resins—all standard grades

INSECTICIDE MATERIALS

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Piperonyl Butoxide
Piperonyl Cyclopentene
Pyrenone® Concentrates: Liquid & Dust
Pyrethrum Products: Liquid & Dust
Rotenone Products: Liquid & Dust

INSECTIFUGE MATERIALS

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Triple-Mix Repellents

OTHER PRODUCTS

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Nitrocellulose Solutions
PIB®—Liquid Insulation
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BRANCHES IN ALL PRINCIPAL CITIES

Reports on Cleanser Research

SCIENTIFIC progress on a scouring cleanser and palm oil and 148 other widely varied research projects is described in the annual report issued recently by Dr. Haldon A. Leedy, director of the Armour Research Foundation of the Illinois Institute of Technology. Among the achievements cited in the report, which describes the 1949-50 fiscal year as the most successful in the 14 year history of the Foundation, is the invention by ceramists of a way to measure the cleaning efficiency of a scouring cleanser.

The foundation's work, which is described in the 56-page illustrated report, is sponsored by industrial concerns and government agencies supporting individual projects. The foundation has a staff of 700 persons to work on 337 projects.

Research on a scouring cleanser, manufactured by Cudahy Packing Co., Chicago, is now in its fifth year, according to the report. Various alterations in composition have more than doubled the cleaning efficiency of the cleanser, as measured by closely controlled and duplicated laboratory testing procedures developed by the laboratory, the report states. Fundamental research on the chemistry of animal fats has been sponsored by Cudahy Packing Co. for the second year, according to the report.

Other studies conducted by the Armour Research Foundation include one on sterilization methods under the sponsorship of Robert A. Johnson Co. This resulted in a technique that required no heat. The addition of non-toxic chemicals protected some food products from deterioration by foreign bacterial contaminants, the report points out.

Also mentioned in the report is a project originated to develop new and useful surface active agents, especially of the cationic type. Sufficient work has been completed to investigate the chemistry of the reactions of a class of compounds which are not being utilized at present as raw materials for surface active agents. The

compounds prepared, although not highly active, prove the reactions occurred as expected. Further work will be required to correlate configuration and molecular weight with activity, the report concludes.

SOCMA Hears Moody

The next regular monthly luncheon meeting of the Synthetic Organic Chemical Association will be held Wednesday, Feb. 14, at 12:15 p.m., at the Hotel Commodore, New York.

Dwight L. Moody, chemical editor of the *New York Journal of Commerce*, guest speaker at the Jan. 10 meeting, spoke on the subject, "A Newspaperman Looks at the Chemical Industry". In his talk, Mr. Moody discussed the growth of the chemical industry in the United States over the past 50 years stating that it had attained a position of unparalleled importance in the national economy. To maintain this position, he stated, widened public understanding and support are needed. In the interest of national welfare and national safety, as well as for the chemical industry's own protection, it is important that executives in the industry become increasingly public relations minded, Mr. Moody said. He concluded that groups in the chemical industry and individual companies must become more aware of their responsibilities to educate the public on the constructive contribution of the chemical industry to the well-being, health and safety of the American people.

Buckeye Insurance Plan

A new group life insurance plan for the 800 eligible employees of the Buckeye Cotton Oil plant, Memphis, Tenn., of which Procter & Gamble Co., Cincinnati, is the parent company, was announced recently. The plan is the latest in a series of employee benefits dating back to 1887 when P&G became the first company to establish a profit-sharing plan, the essential features of which have been in effect since. Procter & Gamble has

about 15,000 employees in the U. S., the bulk of whom are eligible for participation in such plans.

The P&G plan differs from most in that the cost of 25 cents per \$1000 of insurance per month is one of the lowest of any similar plan due to the fact that the company pays the substantial share of the premium cost and administers the plan. In addition, the plan is unique in that employees absent from work through illness or disability can join the plan and obtain the insurance as long as their disability lasts, provided they have not been absent from work for more than two years.

Ups Chlorine Output

The installation of new equipment to expand its production of chlorine at Niagara Falls, N. Y., was announced recently by Stauffer Chemical Co., New York. With the 50 per cent expansion of a year ago, it is anticipated the plant will be producing over 100 tons a day when the recently announced project is completed early next year.

Cosmetic Chemists Meet

The monthly dinner meeting of the Chicago Chapter of the Society of Cosmetic Chemists is to be held Tuesday evening, Feb. 13, at 6:30 p.m., at Henrici's Restaurant, Merchandise Mart, Chicago. Dr. Cleveland J. White, chairman and professor of dermatology at Loyola University is to discuss the subject of "What the Cosmetic Chemist Should Know about Allergic Dermatitis."

Lever Shifts Yates

H. Howard Yates was recently appointed sales manager of the Houston, Tex., division of Lever Brothers Co., New York. He joined the company as a member of display advertising department in Houston in 1937, serving in various supervisory capacities there for the next 10 years. Three years ago he was transferred to the Philadelphia district. In his new post he is in charge of a district that covers Texas, Louisiana, and the southern parts of Mississippi, Oklahoma and Arkansas.

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that have been laboratory tested and approved
for use in

SOAP LIQUID SOAP SHAMPOOS

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ROURE-BERTRAND FILS et JUSTIN DUPONT
GRASSE (A. M.) FRANCE ARGENTEUIL (S & O) FRANCE

By E. G. THOMSEN, Ph.D.

DURING these critical days increasing emphasis is being put upon stepping up production. Greater and more efficient production is one of the few means to compensate for the terrific waste of rearmament programs. A larger degree of plant efficiency is a requisite of greater volume of output. Production men in small and large plants need to study every possible device to uncover more efficient production methods.

Illumination is very important in stepping up production. Good lighting results in more and better output per employee. Too many plant executives overlook this fact and go on year after year with outmoded lighting facilities. To have a good lighting system laid out by an expert is an improvement that pays big dividends. Local public utility companies, if requested, generally will cooperate in advising on and in securing correct light. More and brighter lights are not the main considerations, however. Other factors such as good dispersion and spreading of the light without forming disturbing shadows, absence of glare and sufficient light for a particular operation are important to good lighting.

Benefits obtained from proper illumination include increased production of products of better quality, fewer accidents, more ready availability of older employees, stepped up morale and neater plants.

While close work is not encountered as frequently in our industries as in many others, it is true that, when the light is good, a workman's attention is called to any unusual conditions which may turn up during processing operations. A change in color, for example is often of importance. For this reason the right type of light source should be selected where processing is carried out under artificial light. If steam and vapor rise during operations, suction lines should augment the lighting facilities so that

the kettle and mixers emitting vapors may be observed more closely.

Where packaging equipment is used, avoidable errors are more readily detected if lighting is good. When em-



DR. THOMSEN

ployees are required to work for hours under inadequate lighting conditions, the eye strain is so increased that important packaging details may be overlooked. Even the leaders of groups on straight-line type production units will not detect flaws as readily as when good lighting is present. Even shadows under bright lights will result in poor work. The economies of good light installations soon pay for themselves not only in better work but in the prevention of losses in time and materials.

The majority of accidents in plants occur in poorly lighted factories. Liability insurance inspectors recognize this and frequently require better lighting of dark plant areas. Here again, care must be taken to provide correct lighting. Too bright a light that blinds one at various angles or bad diffusion of light may be as inefficient as too little light. We have noted bright, blinding electric bulbs, particularly at the feet of stairways and passage ways. These are highly dangerous because objects beyond cannot be distinguished. They blind as bright

lights from an approaching auto blind one. Such conditions in plants are inexcusable since they are easily corrected.

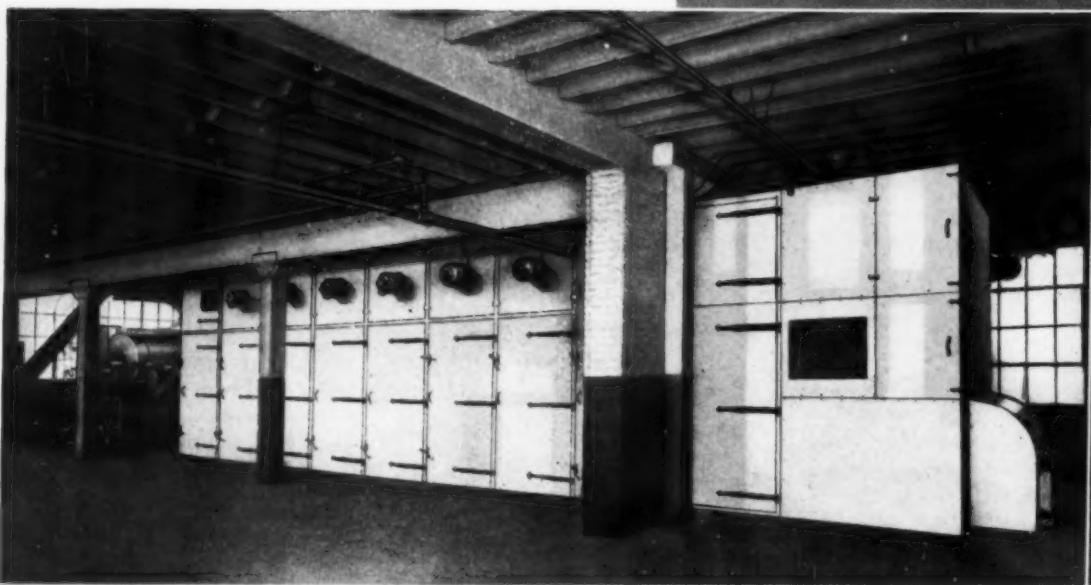
During the present emergency, many older people will return to industrial labor. Everything must be done to keep them comfortable at their work. Since the eyesight of older people is not as good as that of younger workers, production executives should study each older worker's particular needs and place him in a spot where the lighting is best for his eyesight.

The betterment of morale that results from working in a well lighted plant is similar to that experienced in working in a neat, orderly plant. Good lighting is shunned in some plants because of the fear that it will show up housekeeping defects. Good illumination also includes brightening up the walls and ceilings and keeping them clean. It should result in cleaning up of messes that accumulate under machines, work tables and in dark corners or in other out of the way places. Such cleanups mean that sanitary chemicals are required to do a proper job. It might be a step forward to have a hook-up between illumination engineers and sanitation experts. If more light is introduced into the disorderly poorly lighted type of industrial plants and offices, it greatly magnifies the dirt and disorder. For that reason, sanitation men should recommend better lighting. They have a good argument in pointing out that better quality work, more pride in workmanship and increased staff morale have resulted in plants which are well lighted. Once the illumination is adjusted, good plant housekeeping and increased consumption of sanitary chemicals result.

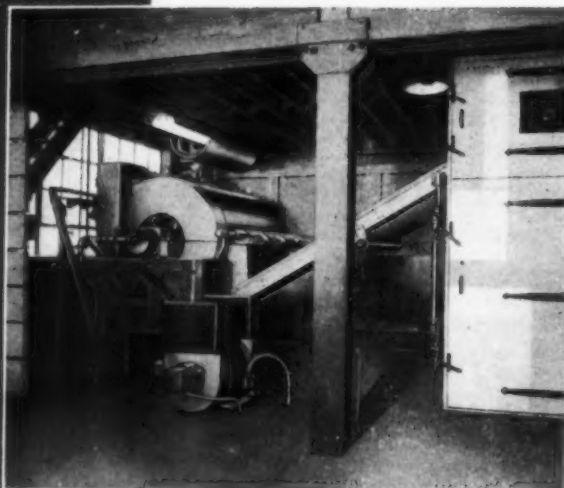
Fluorescent Lamp Fixture

A PROPOS to what has just been said about proper illumination an easy-to-install fluorescent lamp is available through Stocker & Yale, Marblehead, Mass. Instead of the necessity of using a complete fixture their "Lite-Mite" screws into any socket. Push button control is provided on top of the shade. It is claimed this unit, which finds use in laboratories, offices, and for close work, emits four times as much light at cooler temperatures, than the

THE *NEW* SOAP CHIP DRYER *by* SARGENT



Accurate FEED CONTROL — *Perfect* CHIP THICKNESS CONTROL



FOR INCREASED PRODUCTION

SARGENT'S New Soap Chip Dryer has flexible feed control and accurate chip thickness control—with three variable speed drives, for the rolls, for the feed apron, for the dryer conveyor. It has many other new features all designed to speed production at low operating cost.

The installation illustrated is at Standard Soap Co., Camden, N. J. Production is 2000 lbs. tallow base laundry soap chips per hour, with intake moisture of 34% and leaving moisture of 8%. Harder drying soap averages 1600 lbs. per hour. Chip thickness of 10/1000 to 12/1000 is consistent and even across full width of chilling roll and feed apron conveyor.

Please write for full particulars.

C. G. SARGENT'S SONS CORPORATION
Graniteville, Massachusetts, U.S.A.



usual incandescent bulb. It is available in two and four watt types and has a life of 7500 hours.

Alcohol Substitute

A SUBSTITUTE coupling agent and extender for alcohol is now being offered as "Solvent 62," by the Quaker Oats Co., Chicago. It has a boiling range of 70°-75° C., spec. gr. of 0.85 to 0.88, and leaves 1.4 per cent residue upon evaporation. When fresh its odor is acrid, but this lessens upon aging. Light amber in color, the material is soluble in water as well as many other organic liquids. With alcohol scarce, this product may interest many of our readers.

Chromate for Corrosion Control

MUTUAL CHEMICAL CO., New York, announced recently the application of its sodium chromate for lessening corrosion problems. Applications include use of the chemical in boiler water and in idle boilers, in cooling systems and for air conditioning of water. Those interested may secure further information upon written request.

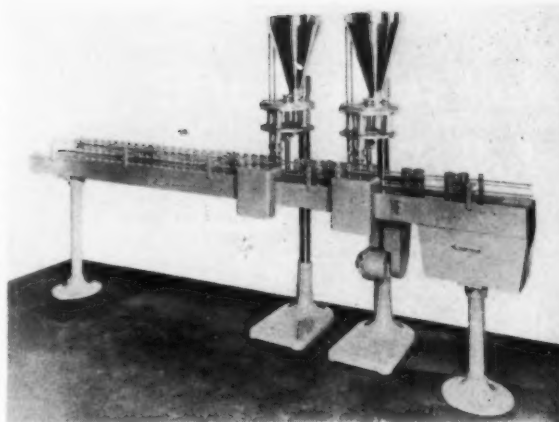
Sprinkler Head Device

SPRINKLER heads are necessary for fire protection. They do go off occasionally accidentally. To prevent the flood thus resulting, the Sprinkler Stopper Company of Englewood, N. J. make a stopper to lessen water damage and permit certain necessary sprinklers to flow while others may be shut off. The stopper consists of a wedge extending at right angles to a stout handle that is readily inserted into the sprinkler ring.

Liquid Filter

DOLLINGER CORP., Rochester, N. Y., makes a novel filter of large capacity for use with a varied range of liquids. "Staynew" is the trade name for the device. It may be operated up to pressures of 6,000 lbs. at temperatures as high as 1000° F. and to a fineness of two microns. Filter sheets used with the unit may be made from metal, plastic, fabric, ceramic or minerals. The sheets, crimped for greater filtering surfaces, can be inserted readily and inexpensively when replacements are necessary. Parts exposed to liquids are available in stainless steel,

New combination "Whiz-Packer" conveyor and packer announced recently by Frazier & Son, Belleville, N. J. Speed of operation of the packer is determined by the product's flowing capacity and the shape and size of the container to be filled.



aluminum, Inconel and Monel, as well as in steel, iron or bronze. Bulletin D-1L gives further details on the filter.

Handy Fasteners

VERY often it is necessary to fasten pieces of metal firmly together. Usually this is accomplished by drilling, threading or reaming. With "Roll-Pins" made by Elastic Stop Nut Corp., Union, N. J., most of these operations are unnecessary. Their use involves drilling holes of standard size, and inserting a "Roll-Pin" of corresponding size. The pin is pressed or hammered into place. A flush, vibration proof fastening which may readily be removed with a drift punch results. Samples and more information are available.

New Packer-Conveyor

A new combination packer and conveyor for filling flat bottom containers with such dry products as powders, etc., was announced recently by Frazier & Son, Belleville, N. J., manufacturers of "Whiz-Packer" machines and "Fre-Sure" speed controls.

The new combination floor model "Whiz-Packers", singly or in dual set-up are used with the all new endless belt conveyor. Containers are fed to the incoming side and are stopped by a control finger under the filling spout—and held until the finger releases the filled container to the outgoing side of the conveyor. The packer-conveyor can be selected to fill a wide range of products and container sizes. When products cannot be pre-mixed, more than one product can be measured out individually by

multiple filling heads. The speed of the packer is determined by the product's flowing capacity and the size and shape of the container. More than one filling head can be set up in conjunction with the conveyor for higher production. Suitable vibration can be supplied when the product, in its free state, is greater than the volume of the container.

To eliminate dusting, the machine can be supplied with a telescopic filler spout which will seat itself gently on the top of the container being filled.

Bulletin on Silicones

Silicone resins and their use in automobile and furniture polishes are discussed in the December issue of the *Industrial Bulletin*, external house organ of Arthur D. Little, Inc., Cambridge, Mass. Introduced in 1943, the silicones, a cross between glass and ordinary plastics, are especially notable for their resistance to extreme temperatures, the bulletin points out.

Based on a framework of silicon and oxygen, modified by carbon-containing organic groups, the silicones are available as liquids, semi-solids, grease-like compounds, rubbery solids and resins that solidify permanently under heat to form flexible heat-resistant films. They find a market in the automobile and furniture polish field because they spread easily, reducing or eliminating polishing. In addition the finish is claimed to resist dirt and weather.

The bulletin states that the cost of the silicone resins, about \$3.50

YOU MAKE —

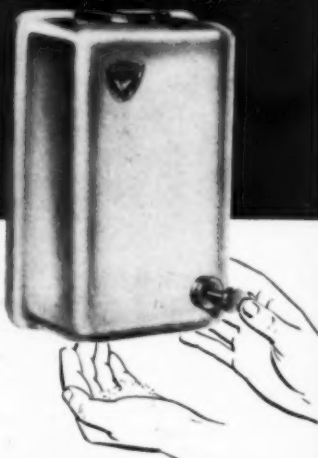
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full dispenser profit!

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Bobrick
31

BOBRICK 31 Monel
in shiny monel
BOBRICK 31 in white
baked enamel



**This Dispenser Lets You Sell Any
Kind of Powdered Soap**

When you sell a customer a Bobrick 31 or a 31 Monel "Universal" Powdered Soap Dispenser, you are not limiting your future soap sales to a single brand. The paddle wheel dispensing mechanism in Bobrick dispensers will handle *any* free-flowing powdered soap, including the borax type, granulated, bead and synthetic detergents. You make your future soap sales easier and your customers happier with Bobrick 31 and Bobrick 31 Monel.

Save Time, Save Shipping Costs...

Order your Bobrick dispensers from the shipping point nearest you. All five shipping points carry complete lines.

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Station G, ATLANTA 2, GEORGIA
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**"Your
Private
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New permanent process available for advertising your own name, trademark and product on the front of this dispenser. Write us for details.

Bobrick
SINCE 1906

SOAP DISPENSERS

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BROOKLYN N. Y. LOS ANGELES

To: **BOBRICK MANUFACTURING CORPORATION**
1839 BLAKE AVE., LOS ANGELES 39, CALIF.

☐ Please send sample of Bobrick 31 "Universal" Powdered Soap Dispenser for our examination and test. It is understood that it will be billed to us but that it is returnable for full credit within a month.

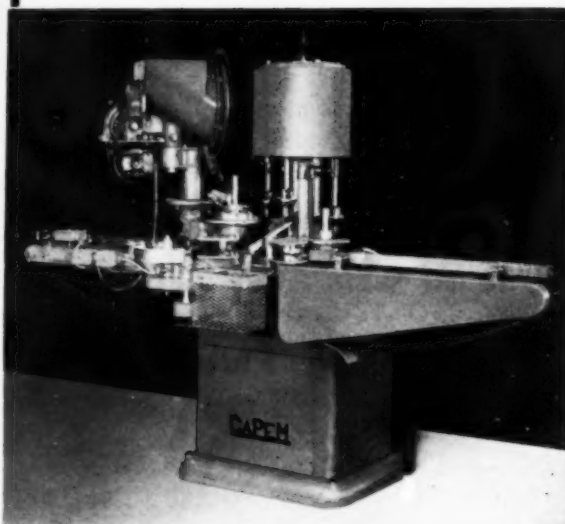
☐ Please send complete information regarding "PRIVATE BRAND IMPRINT" on Bobrick 31.

☐ Please send _____ General Catalogs and Jobber's Price Lists with "Profit Hints."

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**THE MODERN
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- Applies any type of standard screw cap or cover at speeds of 2000 to 10000 per hour.
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- Available in 1, 2, 4, 6 and 8 spindle models.

Write for prices and delivery.

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PACKAGING MACHINERY CORP.**
BUFFALO 13, N. Y.

per pound has prohibited their use for some applications. Although no dramatic reduction in price is in sight, the silicones have been reduced steadily, and with most other prices going up their position has improved.

One of the miscellaneous uses of the silicones is in the suppression of foaming, occurring in the manufacture of soaps and other products. In addition they are used for lens tissues for wiping eyeglasses.

AASPG Cleaning Pamphlet

A new pamphlet, "A Clean, Clean House Earlier than You Think", was issued recently by the Cleanliness Bureau of the Association of American Soap & Glycerine Producers, Inc., New York.

The theme of the new booklet is that efficient upkeep of home furnishings not only adds longer life but gives the homemaker added time for civic and patriotic duties. The eight-page pamphlet gives room-by-room notes on housekeeping jobs and tells how to organize and coordinate the important duties into a definite pattern.

An interesting feature is a comprehensive discussion of "Soap and Detergent Facts", intended as a guide to homemakers in choosing the types of products which are best suited to their individual washing and cleaning needs.

New Mothproofing Survey

A 46-page survey of new literature and patents on mothproofing agents is now available from the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C., it was announced recently. The booklet, which bears the designation PB 102 173, "Mothproofing Agents", sells for \$1.25. The survey was prepared by the Quartermaster's Philadelphia Research and Development Library. Developments since 1940 are emphasized. Entries, of which there are 173, include summaries or abstracts, as well as author, inventor and patent indices. Check or money order made payable to the Treasurer of the United States should accompany orders.

Synthetic Detergents Book

Synthetic Detergents by John W. McCutcheon. Published by MacNair-Dorland Co., 254 W. 31st St., New York. 435 pages, 6 x 9 inches, price \$7.10.

This text is concerned primarily with the detergent compounds, defining the various types of synthetics as to class, method of manufacture, application and processing. In addition to a thorough analysis of the manufacturing processes involved, a discussion of the source and preparation of raw materials, the author also presents an adequate theoretical background on the fundamentals of surface activity and the relation of surface activity to such characteristics as detergency, emulsification, foaming, wetting, dispersion.

The first three chapters are of a general nature covering the fundamentals of surface activity, evaluation methods and the analytical examination of detergents, including tests for stability, detergency, solubility and the determination of various properties. The fourth chapter is concerned with the examination of surface active agents by class and type, considering the anionics, non-ionics and cationics in three individual sections.

Manufacturing processes for typical classes of surfactants are considered in chapter five. Particularly valuable is the discussion of the source and preparation of raw materials in this

section. The applications of surface active agents are discussed in chapter seven, with respect to the fundamental characteristics of detergency, wetting, emulsification, penetration, etc. Typical formulas and uses illustrate the various classes discussed.

The text is well illustrated with tables, charts and photographs. More than 700 surfactants are tabulated in the appendix, listing producers, formulas and uses of the products.

Chemical Specialties Book

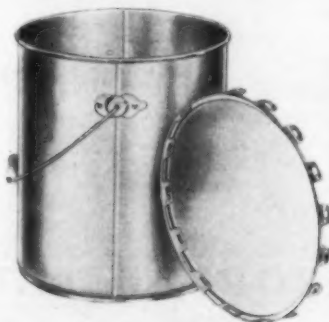
Modern Chemical Specialties by Milton A. Lesser. Published by MacNair-Dorland Co., 254 W. 31st St., New York. 514 pages, 6 x 9 inches, price \$7.25.

The formulation, manufacture and uses of a number of polishes, detergents, cleansers and allied specialties are contained in this text of 42 chapters, each of which deals with a different specialty. Chiefly, the various chapters are based on a series of some 42 articles, by this author, on chemical specialties which have been published over the past several years in *Soap and Sanitary Chemicals*. Each of the articles was, in fact, a condensation of available literature on the subject under discussion, including formulas for typical products and practical hints on manufacture.

The book is divided into six sections: (1) Detergents and Cleaners, such as the hand cleaners, dishwashing detergents, dog soaps, dairy cleaners, etc.; (2) Polishes, including glass, metal, and furniture polishes; (3) Floor Care Products, including cleaners, polishes, sealers, and sweeping compounds; (4) Textile Products, covering laundry bluing, starches, soaps, bleaches, and mildew preventives; (5) Products for Leather Care, including white shoe dressings, saddle soaps, colored shoe polishes, cleaners and renovators, and (6) Industrial and Household Specialties, such as cooling system cleaners, boiler compounds, paint and varnish removers, water softeners, air deodorizers, and wash-room sanitation specialties.

The book is well illustrated, and includes a complete bibliography with each chapter.

New light gauge containers similar to one shown below are now available in one to five gallon sizes, it was announced recently by Vulcan Tin Can Co., Bellwood, Ill. The new line is a substitute for standard ICC lug cover containers that are now in such short supply. The new light weight line is available in car load or trailer load lots. L.T.L. shipments are now limited to Chicago.



EXQUISITE FLORALS FOR SOAPS

Apple Blossom	Honeysuckle	Rose
Carnation	Hyacinth	Sweet Pea
Clover	Jasmin	Syringa
Fougere	Lavender	Verbena
Gardenia	Lilac	Violet
Geranium	Lily of the Valley	Wisteria

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NEWPORT ROSINS

FOR SOAP MANUFACTURE

*Triple Checked
for better soap*

ABSOLUTE CLEANLINESS

ABSOLUTE UNIFORMITY

MAXIMUM QUALITY

MUNN:® M Wood Rosin WONEX: W W Wood Rosin

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Pale Wood Rosins that mean a better soap . . . with a minimum of labor . . . because every batch of the same rosin shipped is identical with every previous batch. This enables you to have Uniformity in your soap with never a need to adjust your formula.



PRODUCTS AND PROCESSES

Cream Shampoo Thickener

Polyethylene Glycol 400 (di)-stearate is suggested as a thickening agent for cream and liquid shampoos. It has a minimum effect on the foam and lathering properties of the product, and has definite hair conditioning properties. The following formulas indicate the basis on which polyethylene glycol 400 (di)stearate is used:

Solid Cream Shampoo		parts
sodium lauryl sulfate	.....	50
magnesium stearate	.....	1
polyethylene glycol distearate	.....	3
water	.....	46

Clear Liquid Shampoo		parts
triethanolamine lauryl sulfate	.....	50
polyethylene glycol distearate	.....	5
water	.....	45

Glyco Products Bulletin No. 46.

Erucic Acid Extraction

Crystallization procedures involving solvent-solute ratios of from 10:1 to 20:1 and cooling in acetone for 24 hours at 40° F. yielded about 50 per cent of an erucic acid fraction of practical purity and about 50 per cent of an acetone-soluble more unsaturated acid fraction. The erucic acid occurs in relatively high percentages in fatty acids derived from the seed of rape and mustard plants. It is expected to find considerable application in the manufacture of soaps, waxes, lubricants, plasticizers and emulsifiers.

Chlorine Without Caustic

A method for reducing the pile-up of electrolytic caustic recommends that the sodium amalgam (containing .1 to .3 per cent by weight of sodium) produced in mercury cells be used directly in the synthesis of compounds other than caustic. Possibilities: metal alcoholates (using amalgam plus anhydrous alcohol); sodium sulfide, hydrosulfite, chlorite or nitrite (by the reaction of amalgam with sulfur, sulfur dioxide, chlorine dioxide, or nitrogen peroxide, respectively), and such organics as hydroquinone from qui-

none, glyoxylic acid from oxalic acid, and pinacones from ketones. *Chem. Eng'g. News* 29, No. 5 366 (1951).

Detergency Tracer Study

Detergency evaluation studies were conducted on a number of detergents, using radioactive copper as the tracer agent, incorporated in the standard soil. Tests indicated that synthetic detergents were sometimes more effective than soap in soil removal. The manner and extent of manual action and rinsing had a definite effect on the results. It was found that the presence of 20 per cent sodium bicarbonate in detergent mixtures promotes the removal of the radioactive isotope elected for the study. Although this additive is not usually desirable for routine industrial or household purposes, it may be useful under certain circumstances, as in the manufacture of isotopes, or an atomic attack. *Industrial Medicine and Surgery* 19, No. 12, 554-557 (1950).

Measuring Detergency

The efficiency of several detergents was determined using individual food soils rather than combined food ingredient soils. The success of the test is based on the use of the correct soils and combined soils were found to be entirely unsatisfactory.

The test consisted of soiling a glass with various soils. The glass was divided into one-third segments (vertical) by marking on the outside, and applying the various types of soils with cotton swabs. The soils decided upon and considered representative were peanut butter for fats, partially coagulated egg white for protein, and thinly cooked oatmeal for carbohydrates. The soiled glass was then washed with a .3 per cent solution of the detergent solution and rinsed, following a standard procedure.

Errors in estimating detergent efficiency caused by differences in vari-

ous waters are eliminated because the test is run with the water in which the detergent is to be used. The test gives comparative rather than exact results, but is sufficiently accurate to classify detergents as good, fair or poor. *Amer. Jour. Pub. Health* 40, No. 11 (1950).

Nascent Soap Studies

Soap produced *in situ* has a greater cleansing action compared with that which it possesses when already formed in ordinary aqueous soap solution. This property has been used advantageously by laundries where it has been common practice to rub some oleic acid into particularly dirty spots, which are then washed with alkali.

Studies by the French chemist Tatu, although not directly comparable with studies made on the detergent action, present still other interesting phases of soap generated *in situ*. Tatu proved that in the production of aqueous emulsions of an oil with soap as emulsifier, considerably better results can be achieved if, instead of using "ready-made" soap, the corresponding fatty acid is dissolved in the oil and the necessary amount of alkali is added together with water. *Manuf. Chem.* 21, No. 11, 470-471 (1950).

Development Assn. Meets

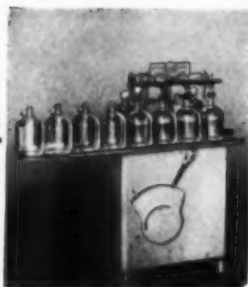
The annual meeting of the Commercial Chemical Development Association will be held at the Roosevelt Hotel, New York, March 20-21.

Sauers Joins Curtis

Leslie A. Sauers, previously national field sales manager of the Pepsodent Division of Lever Brothers Co., New York, recently has joined the executive staff of Helene Curtis Industries, Inc., Chicago.

Chemco Now Pelron Corp.

The name of Chemco Products Co., 7740 W. 47th St., Lyons, Ill., manufacturers of cleaning compounds, rust removers, etc., has been changed to Pelron Corp., it was announced recently by Paul E. Pelletier, president. Management, personnel and location remain the same.



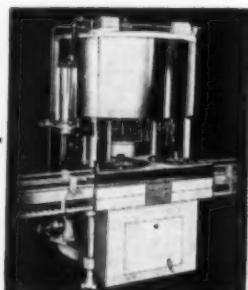
MOST VERSATILE FILLER

*Fills Any Size
Including Gallons*

For filling liquids and semi-liquids. Designed for quick, on-the-job changeover for any container up to gallon size and with efficient speeds on all size containers without undue pressure upon the operator.

Mechanical innovations introduce more comprehensive automatic machine operation for eliminating hand servicing. The product handling system is designed for quick clean-up after runs and the operating mechanism is simple and substantial for many years of enduring, uninterrupted filling service.

Seldom does a new machine, so quickly, make a place for itself in established filling set-ups either on steady production or as a versatile standby unit for peak loads. The Model B-49 Bulletin will give you the interesting details; write for it today.



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VERSENE* GIVES MORE FOR LESS

One or more of the Versenes will increase the effective concentration of soap in your product, process or compound. These powerful organic chelating (complexing) agents give you exacting chemical control of cations in solution. They are known chemically as the sodium salts of ethylene diamine tetra acetic acid and other polyamino acids. Available in wet or dry form they are exceptionally stable under all conditions of temperature and pH.

VERSENE* MAKES GOOD PRODUCTS BETTER

With the Versenes you can completely soften hardest water *without* precipitation... eliminate chilling process... increase speed of filtration... do away with distilled water... prevent oxidation and metallic ion contamination... lengthen shelf life... preserve whiteness... prevent rancidity, chalking and color change... get "built-in" hardwater resistance... raise detergency and foaming action... solubilize proteins, saponify fats and oils... provide synergistic action with quaternaries... retain stability and efficiency at high temperature and pH.

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These are industry's most modern chemicals. They can provide you with the answer to many of your most perplexing problems. Properly added to your soap, product, process or compound they make less soap do more. Write Dept. C. Ask for Technical Bulletin No. 2 and send for sample.

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W. Coast Agent: Griffin Chemical Co., San Francisco, Los Angeles
Midwest Agent: Kraft Chemical Co., Inc., 917 W. 18th Street, Chicago
Southern Agent: Chas. S. Tanner Co., Liberty Life Bldg., Charlotte, N. C.
Associated Chemical Co. of Canada, 14 Darrell Ave., Toronto, Ontario

By John W. McCutcheon

SOME time ago (February, 1950) we discussed the "No Rinse" idea shortly after it was first introduced to the American housewife. From a theoretical consideration it was shown that under average conditions of use, about five to eight per cent of the original soil was left in the cloth due to no-rinsing.

The following data from "Laboratory Notes" for the members of the Pennsylvania Laundryowners Association, Vol. XVI No. 5 & 6 (1950) page 28 (Pennsylvania State College) substantiate this analysis. To quote: "The American Institute of Laundering has burst the 'no rinsing' bubble by showing that soil removal with rinsing, using the same household detergent advertised as not requiring rinsing, gave a marked increase. The AIL research group used small commercial equipment in making this test. We have carried on similar tests in typical household equipment. A household detergent purported to need no rinsing was employed. One 20-minute sudsing operation at 120° F. was used at a detergency concentration of 0.15 per cent for the tests without rinsing. For the tests with rinsing, two 120° F. rinses were employed following a 20-minute suds at 120° F. The following results were obtained on the basis of five washings."

COMPARISON OF RINSING AND NO-RINSE TECHNIQUES

Temperature = 120° F.
Sudsing time = 20 minutes

	Per Cent Soil Removal	Per Cent Whiteness Retention
Without Rinsing . .	29.6	95.4
With Rinsing	31.2	98.0

The per cent soil left in the cloth in the above data is just five per cent. While the above report is not new, it is presented at this time for two reasons. First, because of the continued question in soapers minds re-

garding the "no rinse" idea, and secondly, because the work of the Ellen H. Richards Institute, at State College, Pa., deserves wide attention outside the laundry owners association.

It is a fault of our system of recording that a great deal of data being done at the present time in our universities never reaches a level of publication that permits abstracting in standard journals. It would seem to me, a very simple matter, to arrange such matters. For example, the heads of the chemical departments of institutes and colleges could classify each year reports on file and send them to a clearing house for abstraction. These publications would not have to be available for distribution. Interested parties could arrange to have micro films or photostats made. For some reason, professors seem to take a delight in hiding their work. In other cases, there just isn't enough space available to publish all the data. This column for one, will be glad to act as a clearing house for such papers as they are made available on subjects of interest in the field of soaps and detergents.

* * *

AT this time of the year, the preparation of annual consumer reports gets underway. These have a valuable place in any study on marketing trends and have in many cases become standardized so that results are comparable, one city with another. The following are a few of the reports received during 1950 with a brief comment on the type of data contained, as applied to soaps and detergents.

Consumer Analysis Reports (Standardized questionnaires used)

1. The "Milwaukee Journal" 27th annual report
Comparative data—1947 through 1950, inclusive.
2. "Omaha World-Herald"—6th edition
Comparative data—1949 and 1950.
3. "Indianapolis Star & News"—5th annual report

Comparative data 1949 and 1950.

4. "St. Paul Dispatch"—4th annual report
Comparative data 1947 through 1950.
5. "Columbus Dispatch"—4th annual report
Comparative data—1947 through 1950.
6. McClatchy Newspapers ("Sacramento Bee," "Modesto Bee" & "Fresno Bee")
4th annual report — McClatchy Newspapers, Sacramento, Calif. Three market reports bound together cover 1947 through 1950.
7. "San Jose Mercury Herald"—3rd annual report San Jose, Calif.
Comparative data for 1949 and 1950.
8. "Seattle Times"—3rd annual report
Comparative data—1948 through 1950.
9. "Rockford Morning Star," "Rockford Register Republic"—Rockford, Ill. 5th annual report — comparative data for 1949 and 1950.
10. "Birmingham (Alabama) News," "Birmingham News-Age Herald," 2nd annual report
Comparative data for 1949 and 1950.
Data for above report is obtained by a standardized questionnaire which is returned personally and checked. A premium is given to encourage full cooperation.

CONSUMER PANEL REPORTS

11. A. Cleveland Consumer Panel — The "Cleveland Press" (conducted by bureau of business research, Cleveland College of Western Reserve University) Oct. 1948-through Sept. 1949. Second report. Monthly record of purchases of 500 typical families.
B. Additional report on soap buying in Cleveland. This covers data of above report, plus data from Oct. 1947-to Sept. 1948 with additional charts showing buying trends with variation in income, race, family size, etc. Data in tabulated and graphical form.
12. Houston Consumer Panel, "Houston Chronicle." Conducted by Alfred Politz Research, Inc. Report No. 4. Oct. 1949-March 1950. Comparisons given in percentage for whole period covered plus data for all previous reports. Brands stocked by less than one per cent of the households also shown.
13. "Knoxville News-Sentinel" — Continuous Consumer Research Panel (Cooperative with school of business, University of Tennessee). Jan.-Feb.-March 1950. Issued quarterly. Covers bar and packaged soaps in per cent usage by quarter, current, previous and one year previous.
14. Memphis Consumer Panel Study,—"Memphis Press-Scimitar & Commercial Appeal." Report No. 10. Last six months of 1949. Data covers reports by 300 typical families and classified in two-month periods by brand and race (white, colored) and total.
15. Housewives Panel Report. "Cincinnati Enquirer" (compiled by Oxford Research Associates). Issued monthly showing brand, position, latest month, previous month, year ago and change from year ago. Panel consists of 450 housewives and includes overall analysis in number and per cent of housewives buying brand and amount spent.
16. Bureau of Advertising — American News-

HAAG products

LIQUID FLOOR CLEANSERS:

Zephyr-Brite Liquid Floor Cleanser
VOS Liquid Scrub Soap
UTL Liquid Scrub Soap
Wax Soap Cleansers

HOSPITAL SOAPS:

Senior-Surgeon Liquid Surgical Soap
Castile Baby Soap
Hospital Green Jelly Soap

SYNTHETIC CLEANER CONCENTRATE LIQUID TOILET SOAPS

40% COCOANUT OIL LIQUID SOAP
COCO-CASTILE SHAMPOOS
RUG & UPHOLSTERY SHAMPOO
PINE OIL DISINFECTANTS
VEGETABLE OIL JELLY SOAPS
METAL POLISH
CEDAR OIL FURNITURE POLISH
MOP & FLOOR SPRAY
WINDOW SPRAY

BASIS — Webster says it means:

"a. base of foundation. b. a groundwork or first principle. c. a chief ingredient." Synonyms: **GROUNDWORK — ORIGIN — ROOT — BOTTOM — FOOTING — SOURCE.**

The BASIS of this ad is to inform you of our quality products. Haag Laboratories is the ORIGIN of several good, hardworking but gentle scrub soaps. The ROOT of all floor cleaning jobs is three-fold: Is the cleaner capable? Is it safe—both for the floor and the operator? Is it economical? Haag went to the BOTTOM of a lot of facts to get the "yes" to all three questions. Wise building managers, who are FOOTING cleaning bills, insist on a good SOURCE for their purchases.

HAAG LIQUID SCRUB SOAPS:

V-O-S—a powerful, all around cleaner, economical in its application

Zephyr-Brite—a top grade, concentrated "hard water" cleaner, fortified with wetting agent. Safe and effective—especially gentle on expensive terrazzo and hardwood floors. Low pH.

Wax Soap Cleanser—an effective, well balanced combination of soap and wax.

Synthetic Concentrate—a pure combination of synthetics, effective for all cleaning. Contains no soap.

UTL—a 20% straight Soap Base. May also be used for toilet purposes.

30% Liquid Scrub—a concentrated soap product. Will clean the dirtiest floor.

HAAG LABORATORIES, Inc.

14006 SEELEY AVENUE • P. O. BOX 114 • BLUE ISLAND, ILLINOIS

LIQUID SOAP SPECIALISTS

Write for Description,
Samples and Price List

HAVE YOU A COPY ?

DESCRIPTION OF
MACHINE
DETAILS OF OPERATION
DIFFERENT ATTACHMENTS
AND
COMBINATIONS



Exclusive West Coast Distributor:
Anderson-Barngrover Division of FMC
San Jose 5, California



FOR POWDERS, FREE FLOWING PRODUCTS, GRANULAR PRODUCTS AND PASTES

The Universal Filler folder explains the advantages of this S & S filling machine to you. Our various customers fill more than 150 different kinds of materials on the Universal Filler . . . Drugs . . . Cosmetics . . . Foods . . . and other household products; powders and pastes and free-flowing materials; products which must be packed and crowded into the container; products

which must be handled gently, without pressure. (In fact, everything but solids and liquids.) And so versatile is this Filler that one customer fills 38, another 31, and another 24 different kinds of materials on one machine.

Write for your copy—see how this versatile Filler (4 machines in 1 efficient unit) will help you with your filling problems.

STOKES & SMITH Co

PACKAGING MACHINERY PAPER BOX MACHINERY
Subsidiary of Food Machinery and Chemical Corporation
4915 SUMMERDALE AVE., PHILADELPHIA 24, U. S. A.



SOAP and SANITARY CHEMICALS

paper-Publishers Association. Occasional reports on soaps and synthetics based on Industrial Surveys Co.'s. National Consumer panel. Data is developed by inventory and record of purchase in selected groups of stores.

17. Housewives brand preference survey—Beaumont, Texas "Beaumont Enterprise," "Beaumont Journal," March, 1950. Comparative data for 1940-1-2-3-1949 and 1950. Based on interview studies.
18. Consumer buying habit study, "Appleton Post-Crescent," Appleton, Wis. 3rd annual report 1950. Comparative data 1949-1950. Based on interview studies.
19. Brand Preference Survey, Salisbury, N. C. "Salisbury Post" annual survey, 1950. Data given covers number of families using brand out of 1,152. Based on questionnaires sent through schools.
20. Continuing Home Audit. "Los Angeles Times." Data published on separate sheets covering Jan.-June 1950 in two-month periods, plus last six months of 1949.

One way of using a part of the data so presented will be given in next month's column, covering nine questionnaire type reports on synthetic trends for the period 1947 through 1950.

* * *

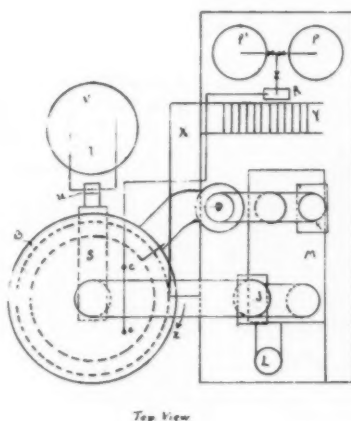
SPRAY drying of soaps was given consideration last month from a general point of view. We will now be a little more explicit with regard to design, temperature and air volume. In this connection the accompanying

drawings of a concurrent flow tower designed for highly puffed products are of interest. In the drawing the tower (A) may be of various sizes depending on the production desired. For an hourly production of 6,000 pounds of dried soap beads from a neat kettle of 30 per cent moisture content, approximately 1,800 pounds of water will have to be evaporated. The tower should probably be about 20 feet in diameter and 100 or more feet high. It is usually constructed of welded steel plates and insulated on the outside to conserve heat. A cab (B) accessible by stairway or from an ad-

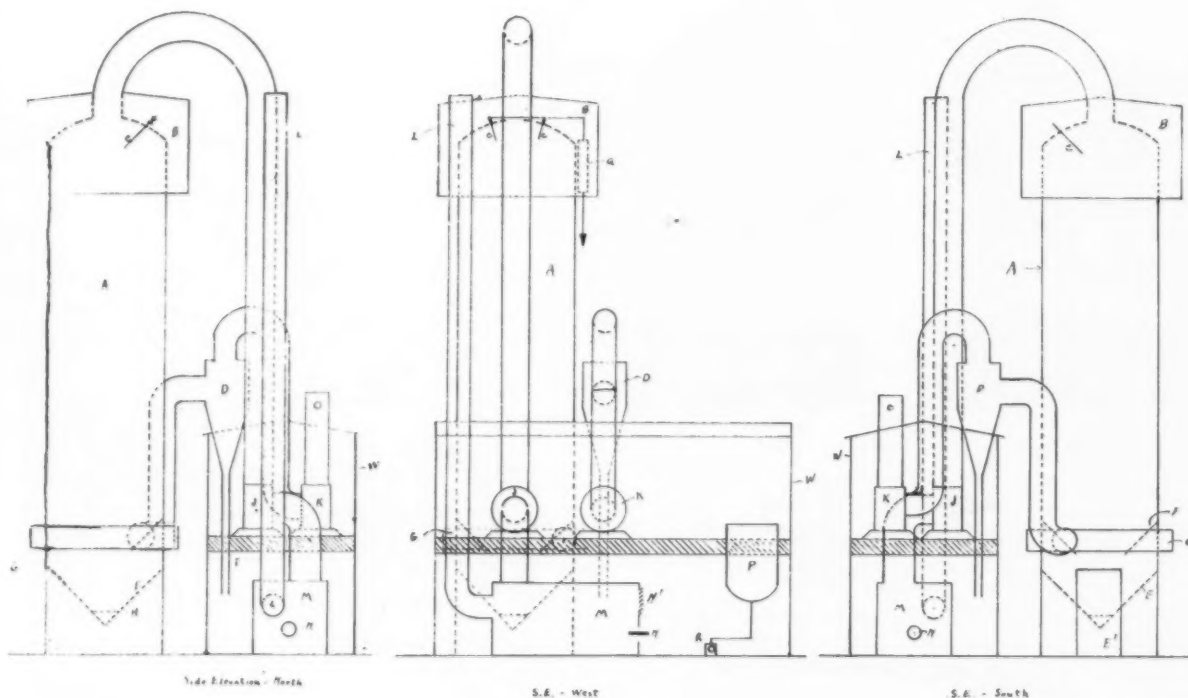
jacent building affords the operator access to the nozzles (C). Air from a gas or fuel oil furnace (M) is pushed into the top of the tower by means of a fan (J) and is exhausted through a plenum ring (G) protected by a skirt (F). A fan (K) draws off the moisture laden air through a cyclone (D) and exhausts it through vent duct (O). In large installations an air filter is interposed between cyclone (D) and exhaust fan (K) to recover the small amount of dust which passes the cyclone. The furnace stack (L) is used only in starting up.

The neat soap and builders are blended in crutchers (P) and (P') alternately, and pumped by high pressure pump (R) to nozzles (C) through a heat exchanger (Q) located preferably near the nozzles. The product falls into the cone bottom of the tower (E) and is removed by conveyors (S) and (U) to screen (T) where it is divided into fines, coarse, and product, using two screens of possibly 100 and 20 mesh. The latter is dropped to intermediate storage bin (V) from which it is packaged. In this tower the air enters the top and accompanies the particle downward, increasing the relative speed of fall and necessitating

(Turn to Page 141)



Top View



SELL
Moore
AND SELL

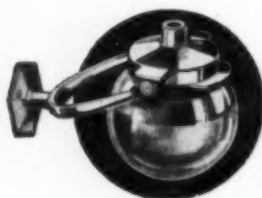
- more soap
- more dispensers



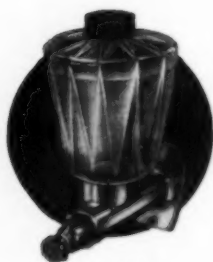
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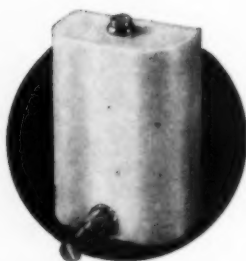
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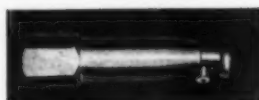
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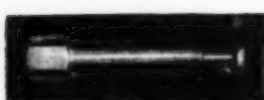
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No. 600



No. 650

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COMPANY**

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TOMBAREL PRODUCTS CORPORATION

Natural and Aromatic
Materials for



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SOAPS
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Sole American Representatives
for
TOMBAREL FRERES, GRASSE

Absolute Supreme Flower Essence
Surfine Essential Oils
Resinoids

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SOAP and SANITARY CHEMICALS

The information below is furnished
by patent law offices of

LANCASTER, ALLWINE & ROMMEL

402 Bowen Building
Washington 5, D. C.

The data listed below is only a brief review of recently issued pertinent patents obtained by various U. S. Patent Office registered attorneys for manufacturers and/or inventors. Complete copies may be obtained direct from Lancaster, Allwine & Rommel by sending 50c for each copy desired. They will be pleased to give you free preliminary patent advice.

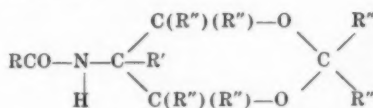
No. 2,531,166. Detergent Concentrate, patented by Charles M. Shaw, Albany, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware. Patent describes a concentrated stable dispersoid of an alkyl aryl sulfonate detergent in a liquid hydrocarbon, said dispersoid comprising said liquid hydrocarbon having dispersed therein from a minimum of 25-35 percent by weight to a maximum of 40-50 percent by weight, based on said dispersoid, of a detergent consisting of a long chain alkyl aryl sulfonate detergent consisting predominantly of alkyl aryl sulfonates containing from 10 to 16 carbon atoms in a single alkyl side chain and an inorganic salt builder therefore selected from the group consisting of alkali sulfates, alkali phosphates and alkali pyrophosphates, and from about 4 to about 20 percent by weight, based on said dispersoid, of an organic solubilizer from the group consisting of water soluble aliphatic alcohols, ketones, and ether alcohols, soluble in said liquid hydrocarbon to the extent of at least about 5 percent.

No. 2,529,682. 2,2-Bis(4-Methoxyphenyl)-1,1,1-Trichloroethane Insecticidal Dust and Process for Making Same, patented by Albert L. Flenner, Wilmington, Del., assignor to E. I. du Pont de Nemours & Company, Wilmington, Del., a corporation of Delaware. The patent describes the method for preparing an insecticidal dust composition containing 2,2-bis(4-methoxyphenyl)-1,1,1-trichloroethane as an essential active ingredient which comprises gradually introducing the 2,2-bis(4-methoxyphenyl)-1,1,1-trichloroethane in a fused state at a

temperature above 90° C. but below about 115° C. into a mass of adsorbent powder while agitating the powder to effect a mixture of the fused material and the adsorbent powder, the rate of addition of the fused 2,2-bis(4-methoxyphenyl)-1,1,1-trichloroethane into the adsorbent powder being controlled so that the mixture remains as an apparently dry pulverulent solid throughout the addition and mixing operation, and continuing the agitation following completion of the addition of the fused 2,2-bis(4-methoxyphenyl)-1,1,1-trichloroethane while cooling the mixture to a temperature not in excess of about 50° C., whereby there is obtained a free-flowing dust product characterized by having the 2,2-bis(4-methoxyphenyl)-1,1,1-trichloroethane adsorbed in the pores and on the surfaces of the adsorbent powder.

No. 2,524,219. Germicidally Active Deionizing Agents for Alkaline pH Solutions, patented by Frederick C. Bersworth, Verona, N. J. The patent describes a bactericidally active deionizing agent for aqueous solutions, said agent consisting of a chemical compound consisting of ethylene diamine tetraacetic acid having at least one of the carboxylic groups neutralized by a basic bactericidally active quaternary ammonium ion and the remaining carboxylic groups neutralized by alkali metal ions.

No. 2,527,078. Detergent Composition, patented by Nathaniel Beverley Tucker, Glendale, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio. A detergent composition is described characterized by reduced tendency to form lime soap, curd when used in hard water at rinsing dilutions, comprising essentially a ternary mixture of a water-soluble soap, a water-soluble salt of an organic sulfuric reaction product having pronounced detergent properties and having in its molecular structure a radical selected from the group consisting of sulfonic acid and sulfuric acid ester radicals, and an amide of the formula

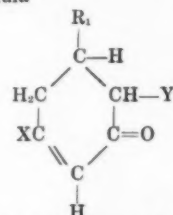


wherein RCO is the acyl radical of an aliphatic carboxylic acid having from about 10 to about 25 carbon atoms, R' is selected from the group consisting

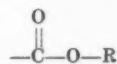
of hydrogen, methyl, methylol ethyl, alpha hydroxyethyl, and propyl and each R'' is selected from the group consisting of hydrogen, methyl, ethyl, and propyl, the sum of the number of carbon atoms in R' and all of the R''s being not greater than 5, the ratio of soap:sulfuric reaction product salt being from 1/2:1 to 8:1 and the ratio of sulfuric reaction product salt:amide being from 1:1 to 10:1, and the amount of amide constituting at least 2 per cent of the combined weights of soap, sulfuric reaction product salt, and amide.

No. 2,524,999. Soap Treating Apparatus, patented by Albert L. Schulerud, Nutley, N. J., assignor to Colgate-Palmolive-Peet Company, Jersey City, N. J., a corporation of Delaware. The patent covers an apparatus for producing aerated bar soap comprising a barrel having an opening for the introduction of soap, a worm rotatable within said barrel for compacting and working said soap, means for heating the soap in said barrel during said working to maintain it plastic to retain incorporated air bodies, a homogenizing throat mounted at the discharge end of said barrel comprising relatively rotatable members between which said soap is forced under worm generated pressure and further worked to subdivide the air bodies therein, and means for compacting said soap discharged from said throat and extruding it as a continuous bar without substantial deaeration thereof.

No. 2,524,108. Insecticidal Composition Comprising Pyrethrins and a Synergist Therefor, patented by Oscar F. Hedenburg, Pittsburgh, Pa., assignor to Harold W. Moburg, Toledo, Ohio, trustee. The patent describes an insecticide composition containing pyrethrins and a compound of the generic formula



in which R₁ is the 3,4-methylenedioxyphenyl radical, X is a substituent selected from the group consisting of alkyl radicals having from two to eleven carbon atoms and octenyl radicals, and Y is a substituent selected from the group consisting of hydrogen and



in which R is a substituent selected from the group consisting of alkyl radicals having from one to six carbon atoms, the cyclohexyl radical and the n-butoxyethyl radical.

New Lever St. Louis Plant

CONSTRUCTION has started on a \$5,000,000 plant for the production of synthetic detergents at Pagedale, St. Louis, it was announced January 29, by Lever Brothers Co., New York. The new synthetic detergent plant is the first unit of what is believed to be the largest and most complete manufacturing center for detergents, vegetable shortening and margarine. The new detergent plant and warehouse will cover three acres of Lever's 27-acre plant site at Pagedale. Excavation is already under way.

Announcement of the new plant was made by W. H. Burkhart, vice-president in charge of production for Lever, at a special luncheon sponsored by the St. Louis Chamber of Commerce. Nearly 100 business and civic leaders attended the affair, which was held at the Hotel Statler. Lever also operates a plant in St. Louis.

Lever officials, accompanying Mr. Burkhart, and who represented the New York headquarters and the local plant and sales divisions, included: Maynard Bemis, manager of the local plant; Gary Crant, western

operations manager; R. L. Jones, regional sales manager; C. V. Fenning, divisional sales manager; J. E. Drew, public relations director, and A. J. Gray, manager of community relations.

The synthetic detergent plant and warehouse form the nucleus around which additional units will be built over a period of years, each fitting into an over-all pattern designed to provide maximum efficiency in operation.

The first unit will be devoted exclusively to the manufacture of "No-Rinse Surf," Lever's synthetic detergent. At the same time, work is starting on the erection of the warehouse, designed as a central distribution point. Full construction crews will be used to complete both projects by the Spring of 1952.

While work on the plant and warehouse goes on, plans will be made for addition of the other buildings and facilities as required. As yet, no dates have been set for the start of these units, and no estimate made of the total cost.

The 27-acre rectangular-shaped

property in Pagedale was acquired by Lever in 1947. The site is bounded by Pennsylvania and Ferguson Avenues and the St. Louis Belt and Terminal Railroad, assuring excellent shipping facilities. The main buildings will face west on Pennsylvania Avenue, a block from Page Avenue thoroughfare and close to University City.

The new St. Louis plant, according to Mr. Burkhart, recognizes the strategic importance of St. Louis as a shipping center and will provide quick and easy distribution of Lever products to its rapidly growing markets in the mid-west, south and south-west trade areas. The decision to make the first unit in Lever's long-range building program for St. Louis a "No-Rinse Surf" plant, Mr. Burkhart added, was designed to meet the increasing demand for this Lever product.

The "No-Rinse Surf" plant will include three major buildings, a six-story processing unit, a three-story structure for packaging the product and an electric sub-station. With 125,000 square feet of floor space, the warehouse will be connected with the plant to speed up storage and shipping operations. It is estimated that the "Surf" plant and the warehouse will employ approximately 200 people.

The complete construction plans call for the ultimate use of the entire tract of land. Approximately 600 people will be employed.

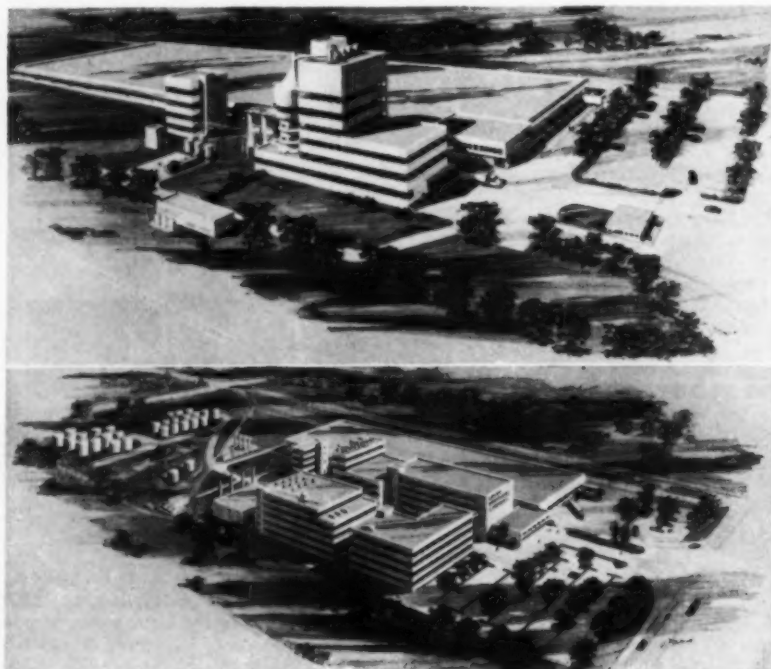
Facilities included with the first unit will be a modern cafeteria in which low cost quality food will be served, a fully equipped and staffed medical clinic, and light, airy locker rooms. Parking space will be provided for more than 300 automobiles.

All buildings will incorporate the latest designs in functional architecture, and the equipment and engineering will make the plant among the finest of its kind anywhere. Plans call for attractive landscaping of the property.

Construction and engineering are under contract to the Bechtel Corp., with supervision by Mr. Burkhart, and the Lever engineering staff. Bechtel is now completing in Los Angeles the eighth of Lever's network of plants lo-

(Turn to Page 147)

Upper photo shows new synthetic detergent unit of new Pagedale (St. Louis) plant of Lever Brothers Co. The complete plant is shown below.





After closing....

CSMA Committees Discuss War Program Supply Plans

HEAVERY demands of the rearmament program and accelerated agricultural production in 1951-52 may tend to reduce dangerously the supply of disinfectants, germicides, household and industrial insecticides, detergents, floor protective products and other materials used in guarding the public health and in general maintenance and sanitation. This was the reason for an emergency meeting of sectional and committee chairmen of the Chemical Specialties Manufacturers Association at the Biltmore Hotel, New York, on February 8. The group of fifty representatives of leading manufacturers in the industry was presided over by Leonard J. Oppenheimer, of West Disinfecting Co., president of CSMA.

Directive orders for raw materials and containers were discussed with a view to facilitating military requirements for finished products, and in preventing interference as much as possible with civilian needs for health protection materials. The protection of plants processing food, civilian hospitals, institutions, and factories working on war materials was pointed out as a vital necessity by C. L. Weirich, of the C. B. Dolge Co., Westport, Conn. It was stated that because of the importance of this need, adequate supplies of DDT, lindane, pyrethrum, basic coal-tar chemicals, containers and other materials should be allocated for the purpose by the National Production Authority. Manufacturers' responsibilities in accepting military DO's were gone over in detail.

Five groups at the meeting held separate sessions during luncheon and reported back to a general gathering on the problems faced by each type of manufacturer in the industry. For in-

secticides, Carter Parkinson of McCormick & Co., Baltimore, reported urging that the Association survey the entire raw material situation immediately to determine its minimum needs. Dr. Emil Klarmann of Lehn & Fink, Inc., Bloomfield, N. J., reported for disinfectants and germicides; H. R. Shepherd of Connecticut Chemical Research Corp., Bridgeport, Conn., for aerosol products; Bayard Johnson of Franklin Research Co., Philadelphia, for floor protective products; and Perry Bartlett of West Disinfecting Co., Long Island City, for detergents and sanitizers.

The unanimous opinion of the five groups in reporting was that because of the public health and maintenance aspect of the products under discussion, the claimant agency for this industry in its dealings with NPA should be the U. S. Public Health Service. A special committee to plan further in coordinating the emergency work of CSMA will be appointed.

More Delaney Hearings

The rules committee of the U. S. House of Representatives approved a resumption of the investigation of the use of chemicals in foods, it was announced Jan. 29. The resolution extending the life of the Delaney committee for another six months was expected to be approved promptly by the House.

CMRA Discusses Soaps

Soaps and synthetic detergents will be discussed at the next meeting of the Chemical Market Research Association, to be held at the Sheraton Hotel, Chicago, Feb. 28. The subject of the meeting is surface active com-

pounds. The morning session is to consist of two papers, one covering soaps, the other synthetic detergents. The products will be considered from the standpoint of functional characteristics, present and alternative raw materials, and the effect of the general character of these products of changes in raw material supplies.

U.S.I. Stock Purchase

National Distillers Corp. purchased on Jan. 26 122,907 shares of U. S. Industrial Chemicals, Inc. stock previously held by the Air Reduction Corp. This sale represents about 25% of total outstanding U. S. I. common stock. U. S. I. is currently (Feb. 6) quoted on the N. Y. Stock Exchange at \$3 with National Distillers held at 29. Dodge & Olcott, Inc. is a wholly-owned subsidiary of U. S. I.

Marcuse's 50th Anniversary

M. M. Marcuse, chairman of the board of West Disinfecting Co., Long Island City, N. Y., and Mrs. Marcuse, celebrated their 50th wedding anniversary on February 5th at the Martinique Hotel, Miami Beach, Fla. The celebration was in the form of a surprise party and was attended by James Marcuse, son of Mr. and Mrs. Marcuse, and his wife, and a party of friends. James Marcuse is president of West Disinfecting Co. He flew to Florida especially to attend the party.

AASGP Washington Office

Roy Peet, manager of the Association of American Soap and Glycerine Producers, has announced that the association will reopen a Washington office under the direction of Frank Luther. Mr. Luther, who was in charge of a Washington office for the association during World War II, has recently been spending half of each week in the Capitol. As soon as he can locate office space, new quarters will be opened and Mr. Luther will be on full time duty in Washington.

Aerosol Award to Revlon

Revlon Products Corp., New York, has been awarded the order on a Department of Defense bid for two million aerosol containers of insecticide, according to an unofficial report from Washington. The bid for 12 ounce low-pressure insecticide aerosols of a standard pyrethrum-allethrin-DDT formula was reported to be 59 cents each, fob plant. The next higher bid was 62. About a dozen bidders figured on supplying the two million aerosols, the first to be let by the Defense Department under the current buying program. The main business of Revlon is the manufacture of nail polish, lip sticks and allied cosmetic products.

Soap Prices Raised

Wholesale price increases of six percent on their soap products were announced recently by Procter & Gamble Co., Cincinnati, and Colgate-Palmolive-Peet, Jersey City, N. J., late in January. Lever Brothers Co., New York, had notified the Economic Stabilization Agency of its intention to raise prices, although the extent of the increase was not announced.

The six percent advance is equal to about a one-half cent boost in the retail price of bar soap, and approximately two cents on a package of soap powder.

Dr. S. A. Rohwer Dies

Dr. S. A. Rohwer, who had just assumed the post of special assistant for defense in the Agricultural Research Administration of the U. S. Department of Agriculture, died of a stroke, Feb. 12.

Dr. Rohwer was widely known in the insecticide industry. He had been with the Department of Agriculture since 1909. In addition to his other activities, Dr. Rohwer was a member of the editorial advisory board of *Agricultural Chemicals*, an affiliated publication of *Soap & Sanitary Chemicals*.

In his new post, Dr. Rohwer, who was assistant chief of the Bureau of Entomology and Plant Quarantine of the U.S.D.A., was the special representative of Dr. P. V. Cardon, ARA Administrator. He represented the ad-

ministrator in relationships with the Production and Marketing Administration under the Defense Production



DR. S. A. ROHWER

Act and related executive and administrative orders.

During World War II, Dr. Rohwer presented the needs for insecticide chemicals to the War Production Board, representing the nation's farmers and the insecticide industry. For his service during the war he was awarded the Superior Service Award by the Secretary of Agriculture in 1947.

He was a native of Telluride, Colorado. He attended the University of Colorado which honored him with a Doctor of Science degree in 1948.

Tax on Soap Shampoos

A revenue bill sponsored by the Administration was announced recently which would extend the 20 percent excise tax on cosmetics to soap based shampoos. The present excise levy applies only on shampoos having a soap content of less than five percent, whereas the recently proposed tax bill would cover all soap shampoos, regardless of their soap content.

Jim Wheeler, Jr., To Service

James Wheeler, Jr., son of James Wheeler, president of Essential Chemicals Co., Milwaukee, will return to active duty with the Navy on February 26. He has been assigned to staff duty with the destroyer fleet in the Pacific. In World War II, he served as a staff officer with the Atlantic destroyer fleet. Jim, Jr., is a graduate of the U. S. Naval Academy.

Issue Tin Orders

A series of orders and amendments affecting the use of tin for various purposes were issued by the National Production Authority recently. The first of these amendments to NPA order M-8 covers the use to which pig tin and secondary tin may be put. Limits on the use of tinplate include 80 percent of the base period (first six months of 1950) in February and March.

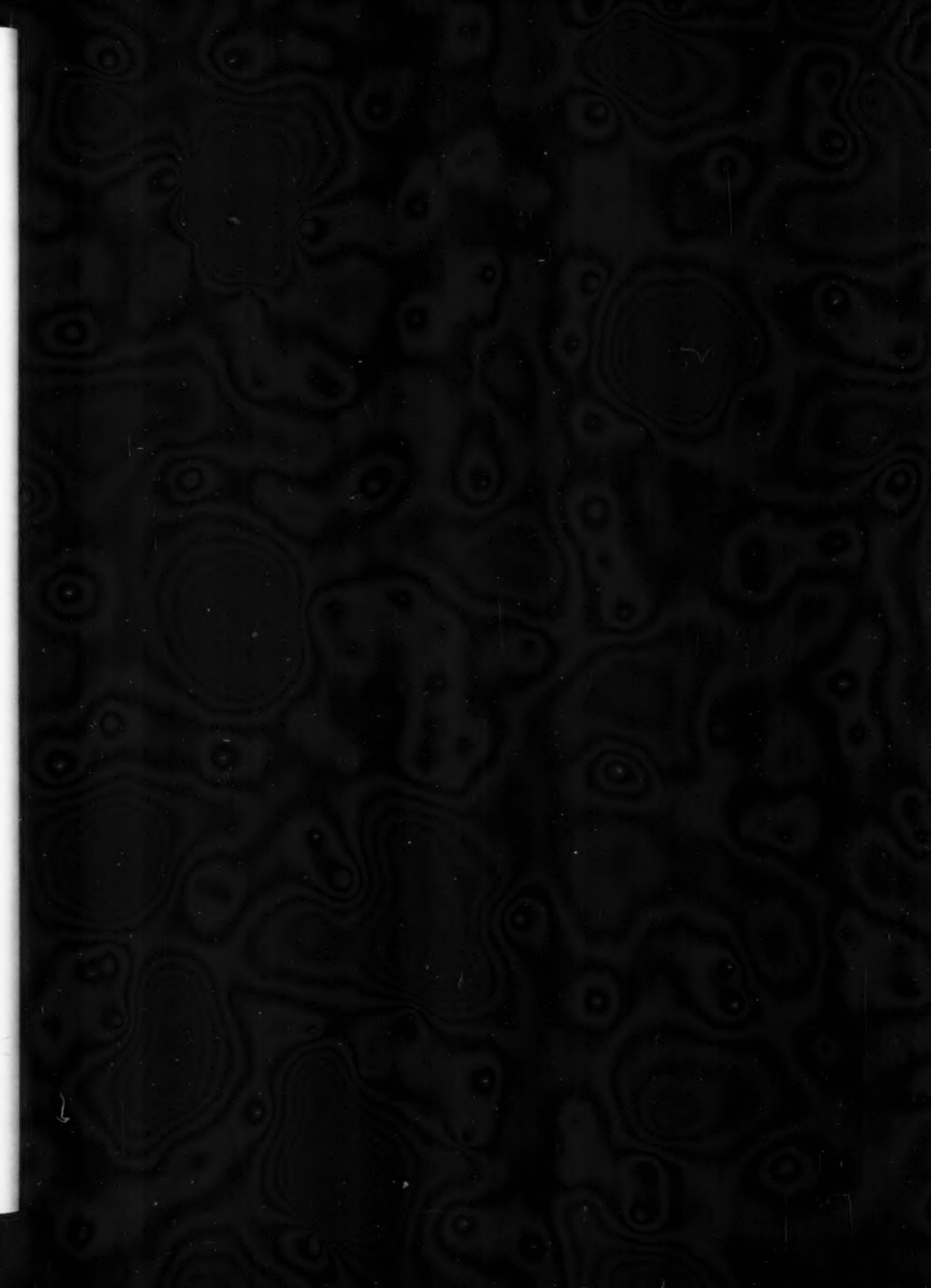
The use of tinplate and terneplate in cans and closures is permitted under restrictions which are set forth in Can Order M25. Affected by the order are brushless shave cream, tooth powders and glycerine.

An order (M-27) covering the use of tin in collapsible tubes permits dental cleansing preparations and shaving creams to be packed in tubes containing not over five percent by weight of tube. Aluminum is restricted for tubes by this order to 90 per cent of average monthly use for the period from Aug. 1, 1950, through Nov. 30, 1950. The order took effect Feb. 1.

Tinplate closures are covered in Order M-26. The order restricts the use of such closures to packaging a specified list in a schedule and prescribes the specifications of tinplate which may be used for the purpose. Closures for all products other than food may not use over .50 tinplate in their manufacture.

P&G Earnings Report

Procter & Gamble Co., Cincinnati, and subsidiaries, for the six months to Dec. 31, reported a net profit of \$31,388,450, equal to \$3.25 a common share, compared with \$32,704,891 or \$3.39 a share for the period ended Dec. 31, 1949. Share earnings for 1949 are adjusted to give effect to a one and one-half for one stock split in March, 1950. Because of the retroactive feature of the excess profits tax, it was necessary for the company to reduce the consolidated net earnings of the September quarter to \$15,448,816 from the \$20,141,005 previously reported, according to R. R. Deupree, chairman.



SANITARY PRODUCTS

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties

KRANICH SOAPS

COSMETIC

Liquid Castile Soap Shampoo
Liquid Coconut Oil Soap Shampoo
Liquid Olive Oil Soap Shampoo
(50% Olive Oil Base)
Shampoo Base Soap

MAINTENANCE

Liquid Toilet
40%, 30%, 20% Coconut Oil
Potash Vegetable Oil
Soft 40%, Hard 65%, Scrub 20%

PHARMACEUTICAL

U.S.P. Green Soap
U.S.P. Powdered Castile Soap
Powdered Coconut Oil Soap

30 years in business and one of America's leading manufacturers of soaps ONLY
is a testimonial to the standard quality of our products.

Kranich Soap Company, Inc.

54 Richards Street

Brooklyn 31, N. Y.

KRANICH SOAPS

when it
smells better...

it sells
better!



AEROZOMES

It's the only insecticide that's pleasant to use and leaves no odor.

IT MUST ALSO SMELL GOOD!

It's the only insecticide that's pleasant to use and leaves no odor. It's the only insecticide that's pleasant to use and leaves no odor. It's the only insecticide that's pleasant to use and leaves no odor.



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RE-ODORANTS

First choice for pleasantly per-
fuming bulk and hand spray
insecticides at a cost of...

LESS THAN 2¢ PER GAL.



AROMATICS • PERFUMES • ESSENTIAL OILS

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NEW YORK, N.Y. • CHICAGO, ILL. • PHILADELPHIA, PA. • ST. LOUIS, MO. • SAN FRANCISCO, CALIF.

enemy of germs...

friend of formulators



Monsanto Santophen 1 is a deadly enemy of germs because of its effectiveness in many applications. It is a friend of formulators because it is so easy to use in products that sell and resell.

Santophen 1, Monsanto's ortho-Benzyl-para-chlorophenol, offers the following important qualities:

1. It is a single, stable compound with purity above 98%.
2. It is a potent bactericide, having phenol coefficients in the order of 150 to 200 against standard test organisms.
3. It is highly toxic to fungi, killing in concentrations of .002%.
4. It has low toxicity to higher animals. Properly formulated in usage strength, it shows no indication toward skin irritation or sensitization.
5. It is easy to handle, light in color, nonstaining in solutions, with faint, nonpersistent odor.

For details on the use of Santophen 1, supplies of which are now limited, write for a copy of Monsanto Technical Bulletin No. O-51, "Santophen 1 for Use in Disinfectants."

A copy will be sent to you without cost or obligation. Address the nearest Monsanto Sales Office or MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri.

Santophen: Reg. U. S. Pat. Off.

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

SERVING INDUSTRY . . . WHICH SERVES MANKIND



CONSUMERS BUY

says FOURTH BIG

New market study shows favorable customer reaction to aerosols . . . Paints bright sales future for aerosol dealers, manufacturers



*More people buy now.
Large market yet
to be explored!*



Recent "Freon" surveys show that the use of aerosols in the home has steadily increased for all economic classes. In 1947, 27% of consumers had purchased aerosols. Today almost half the people interviewed are aerosol users. But the surveys also show that there still remains a large untapped market for aerosol-packaged products.



*Consumers like aerosols.
Return to buy again!*

There are plenty of opportunities for dealers to make repeat sales of aerosol products. In fact, since 76% of those buying aerosols are completely satisfied, and 21% are partially satisfied, there is a resale potential of 97%! Among the reasons customers give for returning to buy aerosols instead of other types of products are ease of use, less muss and greater durability.



*Insecticides best sellers.
Other products show gains!*

Insecticides are still the best-selling aerosols, but other aerosol products such as room deodorants, mothproofers, paints and plastic sprays are runners-up. New aerosol products—personal deodorants, shampoos, shave creams, suntan lotions and the like have recently appeared on the market and should receive hearty approval.



*Aerosol users want
safety. "Freon" safety
unsurpassed!*

Safety is a factor in aerosol buying that is often in the customer's mind . . . often makes the difference between a sale and no sale. That's why so many dealers find it a definite sales advantage to be able to stress the many safety characteristics of "Freon" propellents! These propellents are nonflammable, nonexplosive, of extremely low order toxicity . . . harmless to foods, furs, flesh, fabrics and finishes. They have no color or taste and are practically odorless.



BETTER THINGS FOR BETTER LIVING

... THROUGH CHEMISTRY

"FREON" SAFE

MORE AEROSOLS

"FREON" SURVEY!



*Play safe...
look for these "Freon"
exclusives!*

"Freon"—and only "Freon"—can offer all of these safety characteristics *plus* a range of pressures from 1 to 120 lbs./sq. in. gauge. And in addition "Freon" can provide the special solubility characteristics needed for certain ingredients. "Freon" propellents are good solvents for DDT, methoxychlor, Lethane 384 and chlordane—as well as hydrocarbons, alcohols, esters, ethers and ketones. A cosolvent can be used to dissolve materials such as ethylene glycol, otherwise insoluble in "Freon." Think of these advantages, then use only "Freon" safe propellents!



*Send for your
digest copy of this
"Freon" survey today!*

FREE! Your own digest copy of this 4th big survey of the aerosol market—the only report of its kind anywhere—together with complete data on "Freon" propellents. It's yours just for the asking. Write today: E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.



— Plan to aerosol-package your product today! —

HERE'S HOW TO GO ABOUT IT:

1. Determine that there is a market for the contemplated product.
2. Develop a stable formulation, including propellant, which can be packaged in a suitable container.
3. Shelf-test the proposed finished-product package before production or sample merchandising is attempted.
4. Have a quantity packaged for test marketing. There are custom loaders who will fill quantities as low as 5,000.

"KINETIC" TECHNICAL SERVICE WILL HELP YOU

As a service to users of "Freon" safe propellents, Du Pont is ready to assist any manufacturer in entering the aerosol market. This includes aid at every step from market exploration to planning shelf-testing and interpretation of the results.

If you are thinking of entering the aerosol market, be sure to find out how "Kinetic" may be of real help to you. No obligation. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.

PROPELLENTS



"FREON" is Du Pont's registered trade-mark for its fluorinated hydrocarbon propellents.

*For over 36 years,
the industry's leaders
have been members of.*

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LEADING manufacturers in the fields of floor waxes and other floor finishes, disinfectants, sanitizers, soap and detergent specialties, household insecticides and moth products, aerosol specialties of all types, and allied chemical specialties are members of CSMA.

Large and small, old and new, these leading firms have comprised the membership of CSMA (formerly National Assn. of Insecticide & Disinfectant Manufacturers) for over 36 years.

The newly expanded activities of CSMA may have interesting advantages for your company. Dues are moderate; services and contacts valuable. If we can give you further information about membership, we shall be glad to do so.

CHEMICAL SPECIALTIES
MANUFACTURERS ASSOCIATION, INC.

110 East 42nd Street

New York 17, N. Y.

L. J. Oppenheimer, President

H. W. Hamilton, Secretary

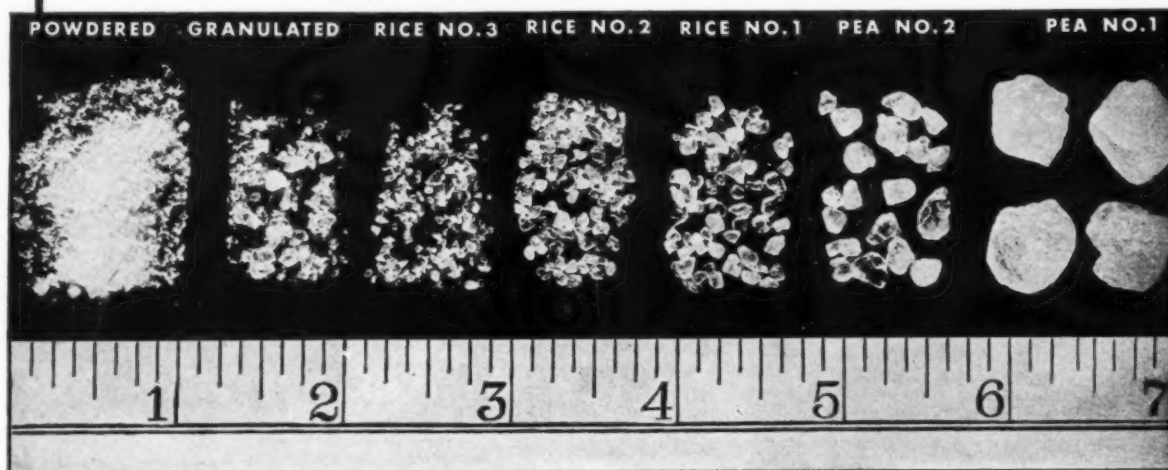
Paradichlorobenzene — a Size for Every Purpose in **HOOKER PARADI***

Hooker Paradichlorobenzene is available in seven different sizes, from powdered to Pea No. 1 (passing thru $\frac{3}{8}$ " screen on No. 2½ mesh) so that you can find just the right size for your use.

And whatever size you use, you can be sure it is of that same high purity that has characterized the Hooker product for thirty years. Sparkling clear unadulterated crystals that evaporate completely leaving no residue and no stains. Shown below are the seven sizes in

which Hooker Paradichlorobenzene is available. If you are interested in the mothicide or sanitary specialties market—if you repackage or reform paradichlorobenzene—you will find the Hooker product, because of its purity, its availability in so many sizes, and the cooperation Hooker can give you, will save you time and money.

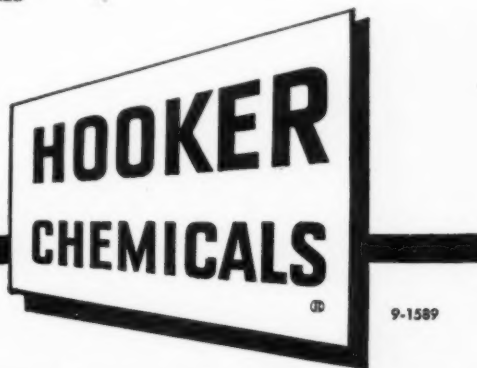
Samples will be sent you upon request on your business letterhead.



HOOKER PARADI BULLETIN NO. 454

Hooker's new illustrated bulletin on Paradichlorobenzene contains a wealth of information for concerns engaged in or contemplating repackaging and reforming paradichlorobenzene. It gives information on the reprocessing for different applications, solubility of Paradi in common solvents, sources for reprocessing and packaging equipment as well as complete information about the Hooker product. Send for copy today.

*TRADEMARK REGISTERED



From the Salt of the Earth

HOOKER ELECTROCHEMICAL COMPANY

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FEBRUARY, 1951

97

FINGER-TIP CONTROL



NEW push-button death to
MOTHS and MOTH LARVAE

MOTH-O-BLITZ

MOTH PROOFS FOR A YEAR OR MORE with one application. Now it's a "cinch" to protect woolsens from *all* cloth eating insects. Simply spray with Moth-O-Blitz and all worries are over. You can't see it, but Moth-O-Blitz leaves a fine coating that kills moths and moth larvae and eggs on contact. Moth-O-Blitz leaves no objectionable odor or crystals — it's non-inflammable and will not harm delicate fabrics.

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Protects Rugs



Protects Clothes



Protects Drapes



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Quick-kill FLIES and OTHER INSECTS



12 oz. container only
\$1.79

HIGH PRESSURE INSECT-O-BLITZ

The 100% killer of flies — mosquitoes — gnats and other flying insects. (By actual laboratory test). The *high pressure* behind the spray causes a mist so fine that it penetrates the most difficult to reach places—behind curtains and drapes—beneath furniture—to seek out and kill even the insects you can't see. Makes them drop and drop fast!

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16 oz. high-pressure container Retail only \$2.50

HIGH PRESSURE

A real high pressure extinguisher in heavy steel container. You need this protection from fires in the home, garage and car. Tetco is 90% carbon tetrachloride combined with other chemicals. Its CO₂ gas charge sprays a full 17 feet. Hermetically sealed—always full and always ready for instant, certain use. Sold complete with bracket for wall hanging.

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Clairton, Pennsylvania

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Representatives in Principal Cities

FEBRUARY, 1951

99



*They're
ALL Toxic
in
**CONCENTRATED
FORM...***

These and many other chemicals are deadly poisons at sufficient concentration. They are all "hard to take" at toxic concentrations, because of taste, odor, etc., yet they will kill, if taken in sufficient quantity at sufficient strength.

However... when the question is one of the toxicity or irritating qualities of a material used in sanitation, there's an entirely different aspect to the picture.

We are concerned here with the actual danger of toxic or irritation effects of certain Onyx Quaternary Ammonium Salts. We can answer the question conclusively because these four Onyx Quaternaries have been thoroughly and authoritatively tested along those lines.†

These tests†, described elsewhere on this page, have shown:

On an acute toxicity basis, all recommended use-dilutions of 1-1000 or weaker are in themselves non-toxic and non-irritating.

On a chronic toxicity basis, there is no danger of harmful cumulative action of any kind due to repeated ingestion of any residues which might conceivably be added to food products due to poor rinsing of equipment sanitized by working solutions of these quaternaries of 1-1000 or weaker.

If all the food products sold today were processed in

equipment sanitized with any of these four quaternaries, it is conceivable that, if the equipment were not rinsed after treatment, there could arise an individual daily ingestion of accumulations of residues from all these sources that might cause trouble. But when you consider the small amount of a quaternary in a 1-1000 or weaker working solution, you can see that even where no rinsing was done, it would take a very large number of different foods, contaminated with quaternary residues, to build up a sufficiently large daily intake to do any harm. And when rinsing is done, the possibility of harm, even with very widespread use of quaternaries in food equipment, approaches zero!

Incidentally, let us also be frank about this question of rinsing. Once sanitization has been accomplished, rinsing is just as advisable in the case of other germicidal agents as in the case of quaternaries—if only for the sake of flavor and taste!

You can feel safe when you use any one of these Onyx Quaternaries, because they have been proved to be non-toxic both chronically and acutely, non-irritating and non-sensitizing at all use-dilutions of 1-1000 or weaker.

FOUR TESTED ONYX QUATERNARIES

Onyx BTC* (alkyl dimethyl benzyl ammonium chloride)
Onyxide (alkenyl dimethyl ethyl ammonium bromide)
Isothan Q-15* (lauryl isoquinolinium bromide)
Tetrosan (alkyl dimethyl 3,4 dichloro benzyl ammonium chloride)

†THE INVESTIGATIONS THAT PROVE THESE STATEMENTS: These tests were conducted by an independent biological laboratory. They include:

- (1) Acute and sub-acute toxicity tests on guinea pigs, white rats and dogs.
- (2) Chronic toxicity tests based on daily ingestion of sub-lethal doses, carried out on guinea pigs for one year, and on white rats for two years.
- (3) Skin irritation and sensitization tests on 200 humans.



*Trade Mark Reg. U.S. Pat. Off.

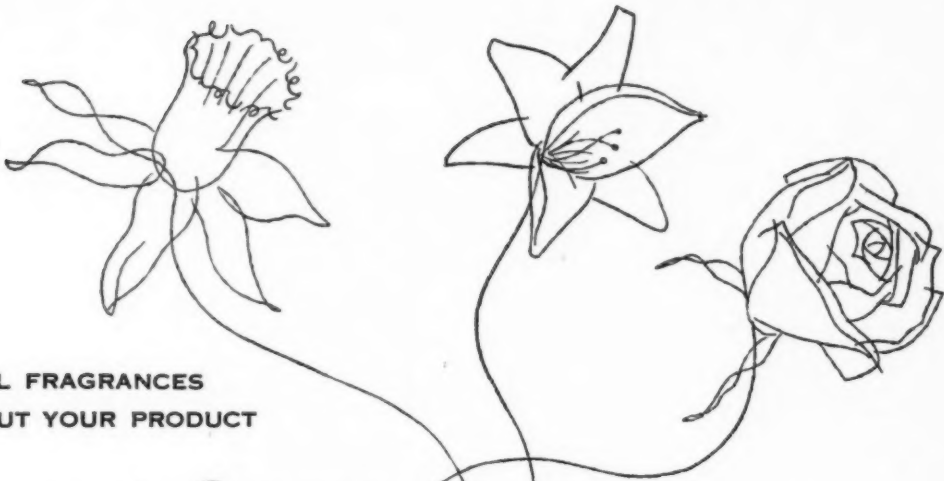
**ONYX OIL & CHEMICAL COMPANY
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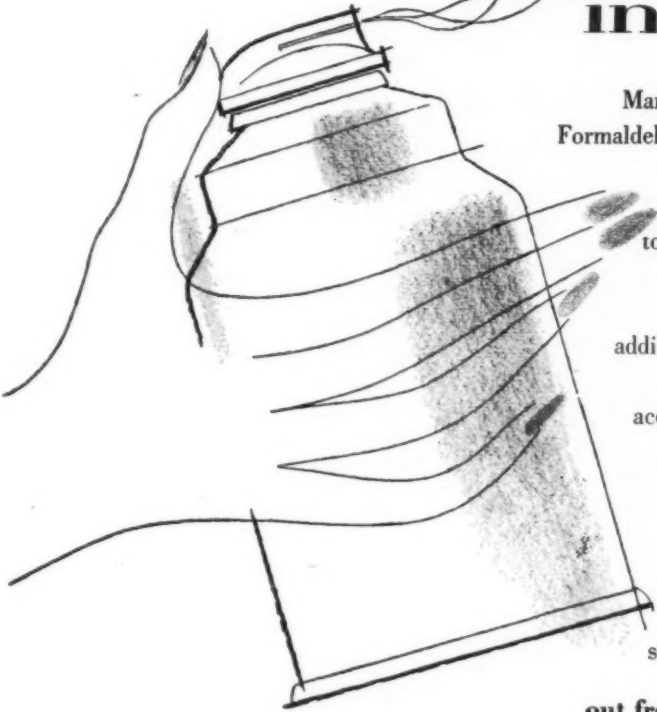
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PUT YOUR PRODUCT

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on display
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Manufacturers of Room Deodorants, Insecticides,
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Polishes, Waxes and Cosmetic Products
are all agreed they face keener,
tougher competition in the days
immediately ahead. These manufacturers
also acknowledge the need for
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aids to make their products more
acceptable, more saleable to the consumer.

Recognizing this need, the D&O
Laboratories have developed a
comprehensive series of tested Aerosol
fragrances that are bound to add
forceful, persuasive, compelling
subtleties that will put your product...

out front, on display, in demand.



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* Pyrenone is a registered trade-mark of U.S.I. It designates combinations of pyrethrins and piperonyl butoxide.

"ENDLESS" is the fastest way to describe the sweeping variety of insecticide products based on U.S.I. Pyrenones. Reason for this unprecedented versatility is simply this: Pyrenones give you a combination of effectiveness against a wide range of insects, economy, and freedom from toxic hazards, that no other available material can approach. They are helping progressive formulators in every field tap new markets, to build profits.



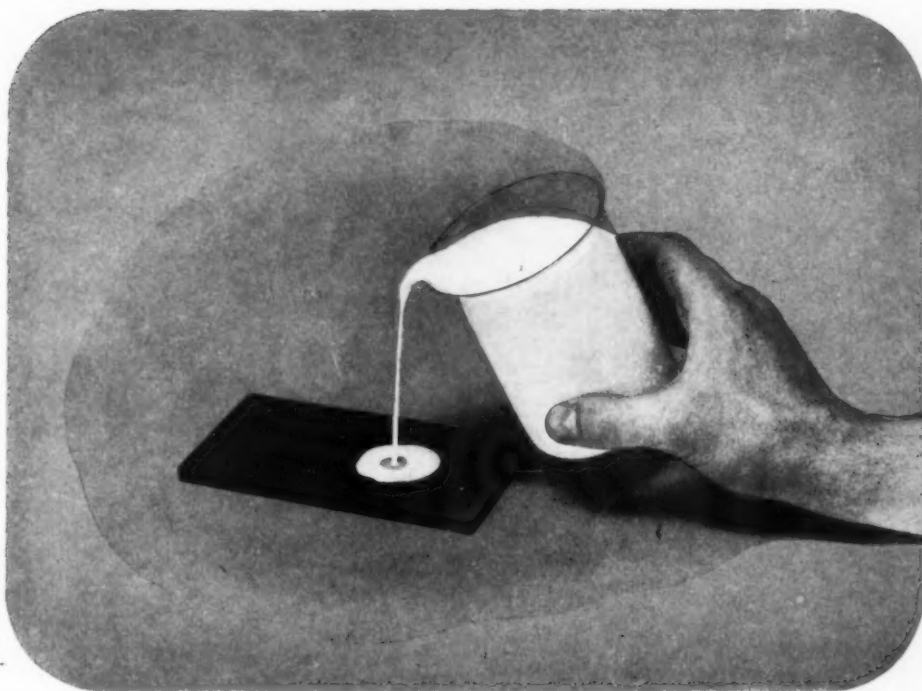
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CARDIS* *can improve your wax product!*

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HIGHER GLOSS
BETTER WEAR RESISTANCE
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ANTI-SLIP CHARACTERISTICS
STABILITY

Ask for our formulations for carnauba-free emulsion polishes.



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dreyer odors for insect sprays...



masking scents.



DREYER HAS WHAT YOU NEED! Expertly compounded by
our specialists to combat harsh odors... Adding their
own pleasant scent to the end product. For greater efficiency,
MORE ECONOMY, contact the Dreyer chemist.

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Gulf Oil Corp.—Gulf Refining Co., Pittsburgh, Pa.

GULFSPRAY INSECTICIDES

GULFSPRAY AEROSOL Insecticide is packed under pressure in dependable Crown Sprainers. At the touch of a thumb, Gulf Spray is mist-ified in air with finest dispersion for maximum results, minimum waste. Gulf Spray plus Crown Sprainer combine the ultimate in sales-getting advantages: Product Efficiency, Convenience, and Economy.

Alert manufacturers are finding more and more new uses for Sprainer. Perhaps you, too, have a product which will spray. Ask about pressure-packaging it in the Crown Sprainer—FIRST ON THE MARKET, FIRST IN SALES, the original and only low-cost propulsion can styled-for-strength with NO SIDE SEAM, NO TOP SEAM.

FOR MORE INFORMATION MAIL THIS COUPON

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- ☐ Please have a Crown Sales Representative call.
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of your current problems
solve it now
by substituting

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in your formulation.

IT WILL DO THE TRICK AT HALF THE
PRICE OF THE NATURAL OIL.

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MGK ANNOUNCES...

New Success With

MGK Allethrin

**EFFECTIVE ROACH CONTROL — SAFE
LOWER COST FLY SPRAYS — ODORLESS**



McLaughlin Gormley King announces three new Booster Concentrates (all containing Allethrin MGK) which produce superior, toxicologically safe, roach and fly sprays with costs reduced to effect worthwhile savings. These products have been thoroughly tested by independent laboratories during a period of more than a year and have been used in practice by experienced pest control operators.

SUCCESSFUL MGK BOOSTER CONCENTRATE "Z" — FOR ROACHES

— Makes a superior Roach Spray. Toxicologically safe, practically odorless, it is being successfully used in all types of food preparation plants, factories, mills, warehouses, stores and homes. *Price is exceptionally low.*

SUCCESSFUL MGK BOOSTER CONCENTRATES "X" AND "Y" — FOR FLIES

— Two very effective concentrates which are guaranteed to make Grade "AA" Sprays. Toxicologically safe, practically odorless, and is being used in homes, food establishments, on cattle and wherever sprays non-toxic to humans are used. *Price is exceptionally low.*

McLAUGHLIN

GORMLEY

KING COMPANY

The superior quality and extreme economy of these products will interest you.

Mail

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TODAY** ➔

McLaughlin Gormley King Co.
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• Please send me specifications and prices on
Pyrocyde Booster Concentrate:

Z, for Roach Sprays
X and Y, for Fly Sprays

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Department _____

Address _____

City _____ Zone _____ State _____

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by Milton A. Lesser



NEW text covering formulation, manufacture and use of many polishes, cleansers, detergents and allied chemical specialties is now available. This new 514-page book comprises 42 chapters, each dealing with a different specialty and including formulas and manufacturing method for that specialty. The text is designed to bring those in the industry up to date on developments in each field, in a brief and practical manner, and to "brief" newcomers to the field with a broad reference outline of the character and type of current developments. This book is invaluable to the manufacturer, salesman, and buyer. Use the order blank at the bottom of the page for your copy now.

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Enclosed is our check for \$7.25 (Foreign and Canada \$7.75) covering a copy of
MODERN CHEMICAL SPECIALTIES

COMPANY

ADDRESS

By



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... **REPEAT SALES** ... and that weighs dollars!

Insecticides ... household deodorants ... aerosol products can produce this smile through the appeal of odor. It's perfume that does it! ... Perfume carefully designed to mask and cover where necessary ... to disappear completely when its job is done ... the proper type to suit the use **AND THE USER.**

Send us a sample of your product, unperfumed. Perfume chemists, skilled in this particular job, will develop and suggest an ideal perfume to meet your requirements ... odor appeal to bring out that vital smile of satisfaction.

MANUFACTURERS AND CREATORS OF THE FINEST PERFUME MATERIALS

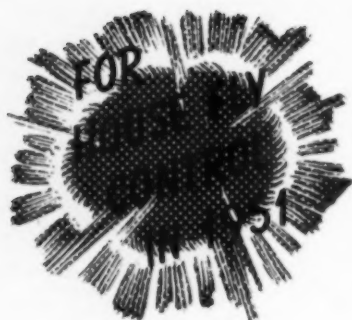
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NEW YORK 19, N. Y.



FEBRUARY, 1951

109



THE DDT RESISTENT FLY

IS ALSO MORE RESISTENT
TO RELATED INSECTICIDES

But.....



ALLEXCEL 20

(ALLETHRIN *PLUS* N-PROPYL ISOME)



WILL KNOCK THEM DOWN

WILL KEEP THEM DOWN

IN ADDITION...

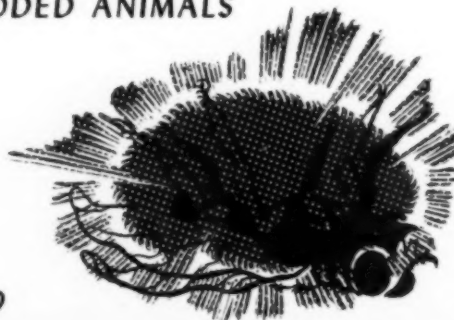
ALLEXCEL 20 Offers These Advantages

★ LOW TOXICITY TO WARM BLOODED ANIMALS

★ MILD ODOR

★ LIGHT COLOR

★ LOW COST

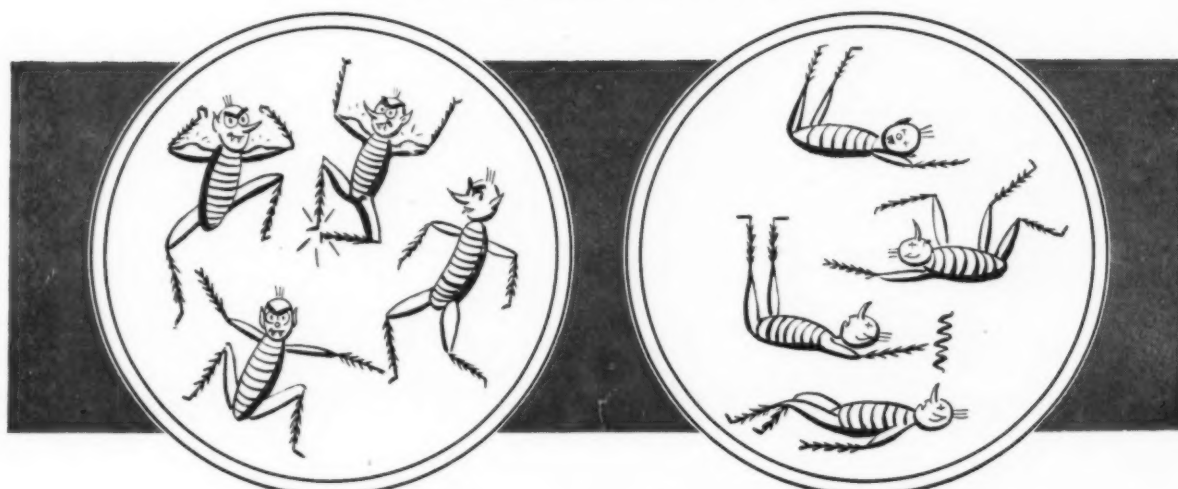


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A Concentrated Soap and Cleaner With the Amazing
Phenol Coefficient of 3.5!



Most floor surfaces harbor an amazing number of both harmful and harmless bacteria invisible to the naked eye—presenting health hazards which should never be overlooked.

Clean, disinfect and deodorize floors in a single, thorough operation with Buckeye GERMELIM—latest development of the Davies-Young laboratories. GERMELIM is a concentrated soap and cleaner combination with the amazing phenol coefficient of 3.5. It cleans floors quickly and efficiently—rinses freely. Diluted with water in a 30 to 1 solution, it *destroys* dangerous floor bacteria on contact leaving a clean, lasting odor.

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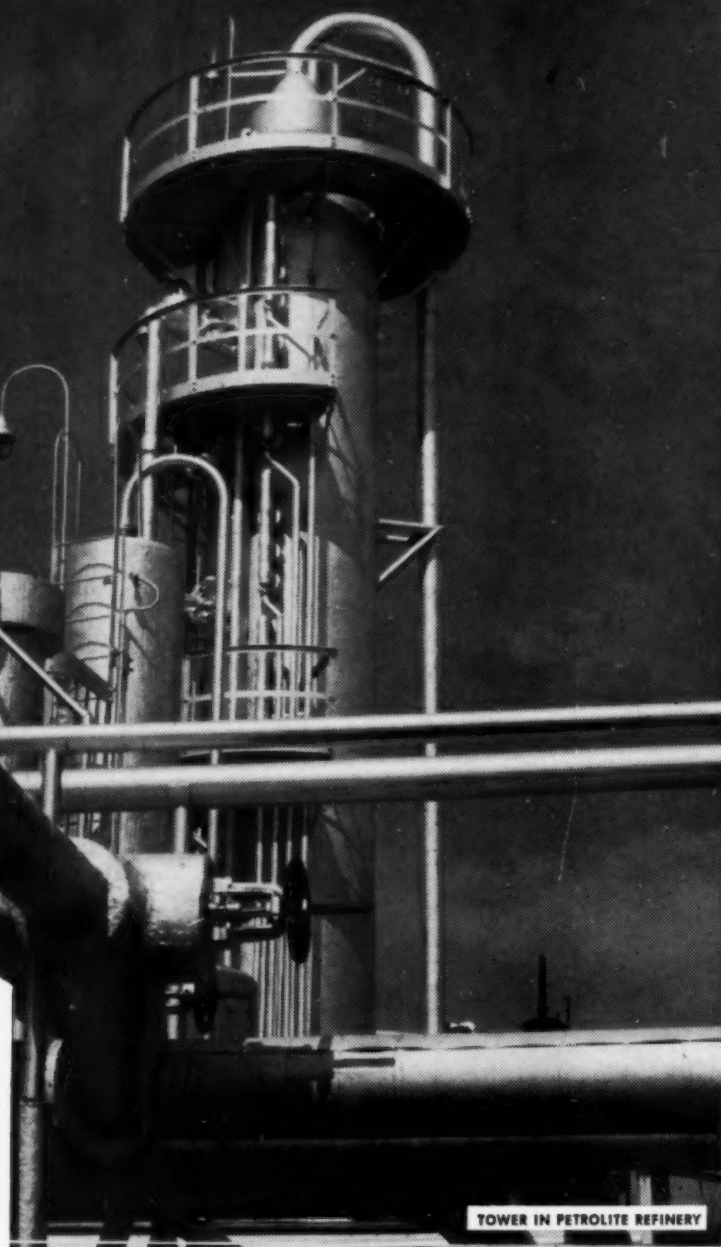
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500	190/195	10 max.	2 to 2½	Nil	Nil
700	190/195	5 max.	2 to 2½	Nil	Nil
1035	195/200	2 max.	2 to 2½	Nil	Nil
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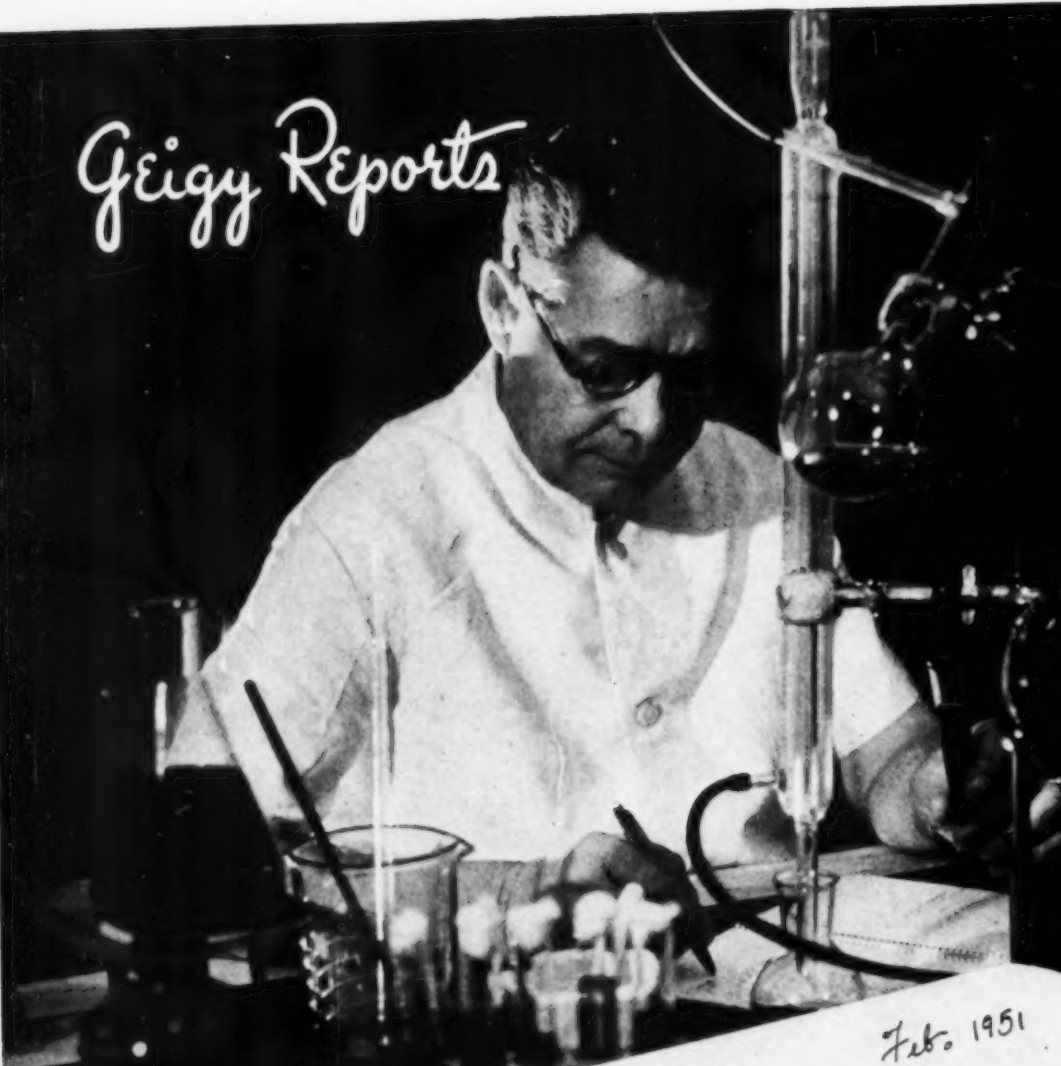
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Geigy Reports



Feb. 1951

Laboratory Report #2

Aerosol and Household Spray Report

Geigy Methoxychlor "90" (90% methoxychlor concentrate)—this product continues to meet most exacting market specifications. Our Technical Service Staff and Sales Division report consumers are enthusiastic about our precision process which mixes methoxychlor and deodorized petroleum distillate into a relatively fine, flakey formulation. Another important factor is its solubility in solvents and oils. Packaged in convenient 100 lb. drums, this material is ready to use in manufacturing of household sprays where low toxicity safety factor is desired.

Also: Geigy Methoxychlor "20" (20% Methoxychlor concentrate)
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ORIGINATORS OF

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DDT INSECTICIDES

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this is ISCO...

The photograph which makes up the background for this page is an aerial shot of the Isco Chemical Division plant at Niagara Falls, N. Y. Here, Innis, Speiden & Co. manufactures for industry such basic products as Carbonate of Potash, Caustic Potash, Ferric Chloride, Liquid Chlorine, Calcium Hypochlorite Solution and Chlor-pierin.

It is in this plant also, that the company's Insecticide Division produces Larvacide*, the versatile tear gas fumigant that sterilizes greenhouse soil, kills rats and mice and eliminates insect pests in granaries, warehouses, etc. Innis, Speiden's Iscomist* Aerosol Bombs for insect control in greenhouse, industry and agriculture are also formulated and filled in the Niagara Falls plant.

Innis, Speiden's Gums and Waxes are refined and processed in our Jersey City, N. J., plant. If our experience with chemicals, gums, waxes and insecticides can help you, please let us know. We've been known for service since 1816.

**Trade Marks of Innis, Speiden & Co.*

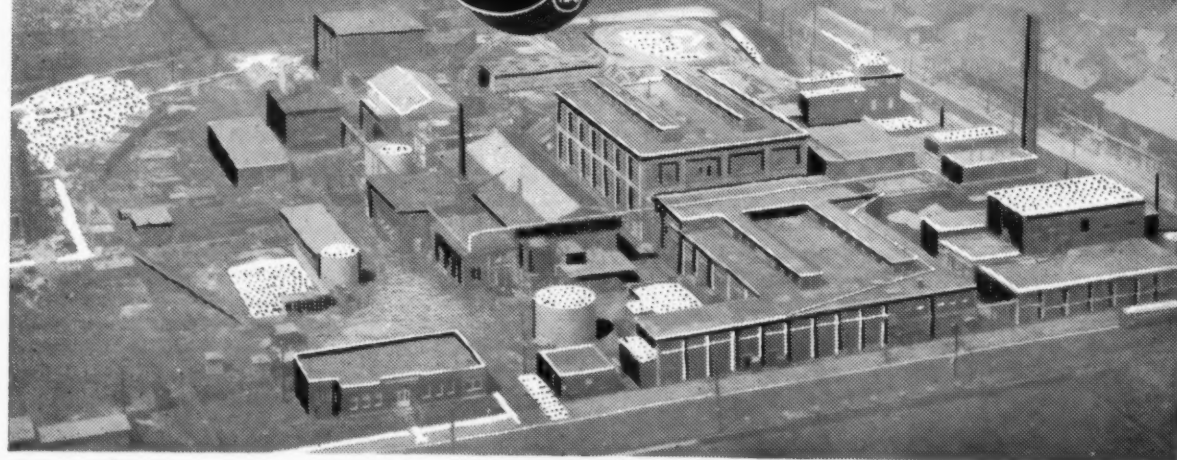
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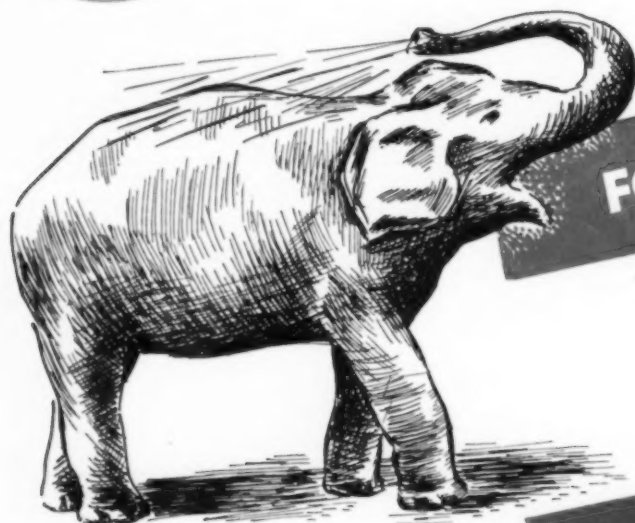
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SANTARY PRODUCTS

A SECTION OF SOAP

FIRST notices of judgments under the Federal Insecticide, Fungicide and Rodenticide Act were published recently by the U. S. Department of Agriculture. Of twenty-five seizures and judgments reported, all except one were of products which had not been registered as required under the law and had been shipped in interstate commerce. In most cases there were also other factors, some form of misbranding, involved in the seizures.

The "new" Federal Law has been in effect now for over four and a half years. During that period numerous warnings about registration and label requirements have been sounded both by the USDA and the press. In July, 1949, rather elaborate warnings were published here at the behest of Dr. C. C. McDonnell, retired former chief of USDA insecticide law enforcement who is at present a private consultant. It is interesting to note that practically all of the shipments involved in these recent seizures were made prior to that published warning. Nevertheless, the law then had been on the books for three years and it seems that ample time had been given to most manufacturers to comply.

This first group of seizures under the 1946 law is only the beginning. That there will be more in the same category goes without saying. And they will be mostly among those who refuse to read and heed published warnings—those who cannot be bothered to read the business magazines of their industry. Even now, with the law almost five years old, we will gamble that there are persons or firms packaging and marketing insecticides, fungicides, disinfectants, and rodenticides who do not know that there *is* a law regulating their operations. Always, we suppose, there is that fringe in every industry which must learn the hard way either through lack of knowledge, ignoring the law, or trying to "get away" with

something. And we can assure them again that their lot is not going to be a pleasant one in the years immediately ahead.

CARNAUBA wax again has been in the limelight during the past month as its previously skyrocketing price brought strong protests from floor wax and polish manufacturers. That the price of carnauba had not moved up relatively any higher nor faster than certain other commodities, notably rubber, tin, copper, is admitted. But, in view of the demand that floor wax manufacturers among others hold the price line on finished products, the continuing upsurge of carnauba prices during December and January, made them hot under the collar—and justifiably so.

Irrespective of the reasons, or lack of them, for the fast rise in carnauba, all consumers of the wax have been caught squarely in the middle. Hence, their demand to the Economic Stabilization Administration for a price roll-back, made through the Chemical Specialties Manufacturers Association and the N. Y. Paint, Varnish & Lacquer Assn., is wholly logical. Either that, or give the floor wax manufacturers a green light to boost prices in line with carnauba costs.

Once again, we say—and we said it over and over during the price control days of World War II—the government can expect no voluntary cooperation in price controls if it insists on putting ceilings only on finished goods. The result is inevitable. The manufacturer of finished products then has no choice but to quit production of items on which he loses money. It happened during World War II, brought acute scarcities and widespread black markets. And it will happen again all down the line. This instance of carnauba and floor waxes is the immediate case in point which brings the problem close to home for us.

By C. M. Ambler*

Sharples Corporation
Philadelphia, Pa.

THE presence of undesirable insoluble impurities is a characteristic of the natural and of many of the synthetic gums, resins, and waxes used as surface coatings. During formulation, an additional amount of contamination incidental to normal plant operation is frequently introduced into the product. Also, during formulation and aging another type of precipitate may appear in the coating as a result of polymerization, side reactions such as oxidation, or the selective solvent action of the vehicle employed.

In this highly competitive field, the producers of the relatively permanent finishes such as varnish have long recognized the necessity for putting on the market a product which will be brilliantly clear in the container, remain so during its shelf life and produce a final coating with a mirror finish free of visible specks and surface imperfections. In the field of what may be described as temporary coatings such as self-polishing wax emulsions, this requirement has not always been so critical.

The use of glass containers has probably provided the greatest incentive for the removal of all contamination that will settle out during storage. In this highly competitive field, it is not only necessary that the product produce the desired results, but its appearance at the time of sale must also be attractive. The presence of a layer of settled solids on the bottom of a bottle of fluid does more to discourage the prospective purchaser than can be overcome by an attractive label. The use of glass containers for this material is increasing because of both consumer preference and the probable shortages of tin plate under war time conditions.

Surface coatings can be clarified in a number of ways. The most com-

mon are filtration, gravity settling, and centrifugal clarification.

Of these, perhaps the least understood with respect to its advantages, disadvantages, and possibilities is centrifugal clarification. Centrifugal force differs primarily from the force of gravity in that it may be many times greater, up to 13,200 times that of gravity for the Super-Centrifuge, and that it is applied in all directions from the center of rotation instead of only downward as is the case with gravity.

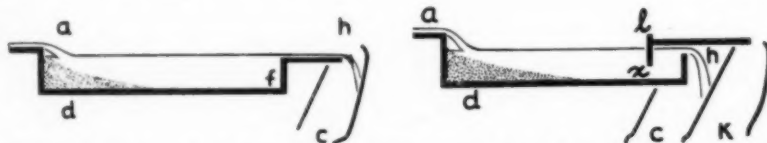
For either centrifugal force or gravity to have any affect on a system, the particles that are to be removed must have a density different from that of the liquid itself. In the case of gravity, if these particles are lighter than the liquid, such as wax or cellulosic material, they will rise toward the surface. If they are heavier than the liquid, they will tend to settle out. Under centrifugal force, the light particles will migrate toward the axis of rotation while the heavier particles will move outward toward the wall of the centrifuge rotor. The rate at which the particles move is a function of their size, the difference in density between them and the liquid and the amount of gravitational or centrifugal force that is being applied to them.

It then becomes apparent that for a centrifuge or a continuous gravity settling tank, to clarify a liquid effectively, the liquid must remain in the centrifuge rotor or the tank, for a sufficient length of time for these undesir-

able particles to have either moved to the surface of the liquid or to have settled out of it so that a satisfactorily clarified liquid can be discharged from the clarifier or tank.

If the liquid is not held within the clarifier for a sufficient length of time, then some of the particles will not have moved out of the zone of liquid flow and will discharge with the effluent. This liquid will then not have been clarified satisfactorily. For a given size of centrifuge, or a given size of tank, this time is controlled by the rate at which the liquid is passed through it. Obviously, unless the particles have a density different from that of the liquid, there will be no force on them to cause them to migrate under either gravitational or centrifugal force, and their removal by centrifuging is not possible.

Most of the undesirable contaminants that exist in surface coatings have a significantly different density from that of the liquid vehicle and centrifugal clarification, with its attendant continuous operation, small hold up, low loss of liquid, and high efficiency, can be used to advantage in the field of surface coatings. To carry the comparison between the centrifuge and the gravity settling tank one stage further, it may be pointed out that a convenient numerical value for comparing different centrifuges is the area of a settling tank capable of accomplishing the same degree of clarification under ideal conditions. This equivalent area for the No. 16 Super-Centrifuge is approximately 28,000



Illustrated above is a simple form of gravity settling trough in which the liquid enters at "a" and overflows at "h" and as it flows between these two points the heavy solids contained in it are deposited as indicated by the pattern at "d." Illustrated at right is a similar trough in which the baffle "lx" has been introduced to hold back any floating solids.

* Paper presented at 37th annual meeting Chemical Specialties Manufacturers Assn., New York, Dec. 5.

square feet, a rather large tank.

So far, we have been concerned only with theory of centrifugal clarification. In practical operation, a number of other factors are involved. In handling a relatively non-volatile liquid such as varnish, there are no particularly critical factors other than to insure that the liquid is being held within the rotor long enough for it to be clarified. In other words, the rate of throughput must be controlled to the maximum, at which the desired degree of clarification can be affected. If floating as well as heavy particles are present, these are removed by a suitable baffle installed in the centrifuge.

In the field of synthetic coatings, where volatile, inflammable and often explosive solvents are used, considerably greater attention must be paid to the mechanics of handling the liquid, both to avoid loss and to eliminate operational hazard. In the Vaporseal type of Super-Centrifuge, the liquid discharges into an intermediate cover, which is surrounded at all times with a self-circulating stream of solvent vapor. The liquid discharge itself is trapped to eliminate loss of this vapor. This system is entirely satisfactory for the handling of even such difficult materials as heavy nitrocellulose solutions, and prevents the build-up of any dry film on the rotating surfaces. (See Figures 1 and 2.)

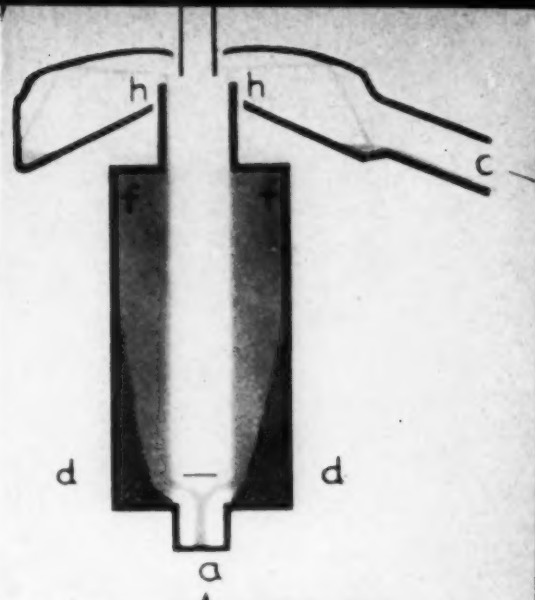
The all-purpose Super-Centrifuge clarifier (Fig. 3) may be moved easily through the plant and connected to any tank that is to be clarified. This all-purpose centrifuge is equipped with a two speed motor for handling both pigmented and clear goods. It incorporates the features of the Vaporseal design and has built into it a pump for feeding the centrifuge at a controlled rate. This assembly is equipped with a discharge spout located at a convenient height for discharging di-

rectly into drums and also with an auxiliary receiving tank for the convenient filling of smaller containers.

The ease with which equipment that is to be used on several different types of goods in the course of a day can be cleaned is an important adjunct to its satisfactory operation. (Fig. 4.)

One of the results incident to centrifugal clarification that is not obtained with any other method is the thorough homogenization of the discharge liquid. As the liquid discharges from the centrifuge rotor running at 15000 rpm, an effective shearing force is applied to it that breaks it down into extremely small particles. This action serves to accelerate the aging and decrease the storage time required before final clarification and packaging of high grade varnish. It serves further to improve the smoothness and final surface finish that will be obtained from any surface coating.

The waxes used for emulsion type coatings are generally the naturally occurring types and are characterized in the crude state by the presence of very large amounts of insoluble impurities. Possibly the worst from this standpoint is carnauba wax, although it gives one of the best coatings. A great many methods are in use for the clarification of crude waxes of this type. In many cases, centrifugal clarification has been employed to advantage, and a great deal of work is



The simplest form of centrifugal clarifier. If floating solids are also to be removed, a suitable baffle can be installed into the bowl between the points "ff" to hold back the floating impurities.

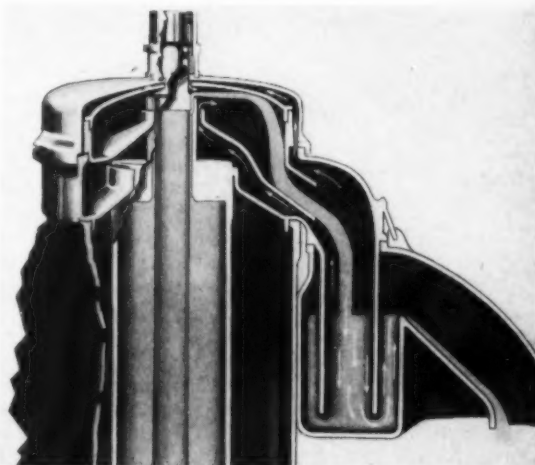
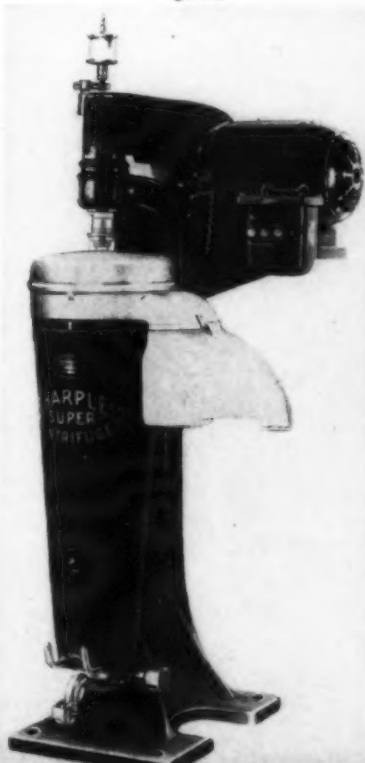


Figure 1

Figure 3

Figure 2



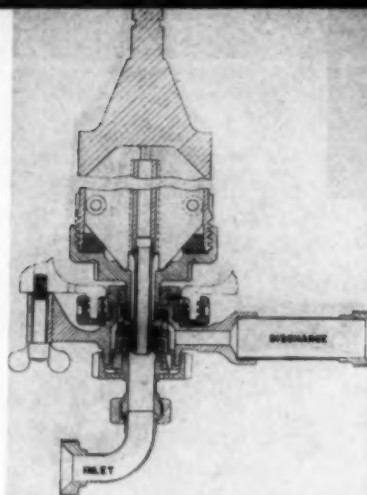
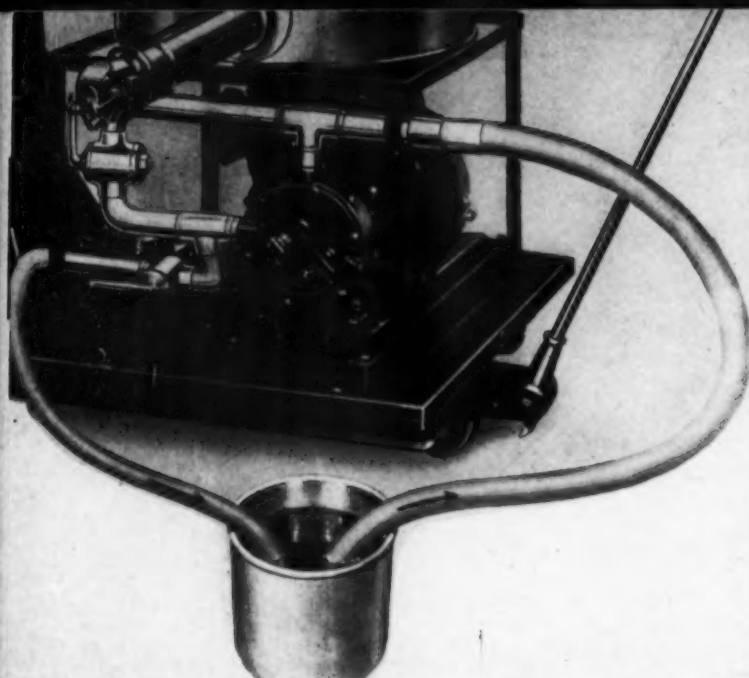


Figure 4 (left) showing how easily a solvent can be circulated through the pumps, piping and centrifuge itself until all dirt has been deposited on the centrifuge rotor and the system flushed with clarified thinner.

Fig. 5 (above) illustrates the section of centrifuge designed to operate in a full liquid system so that no air or vapor is in contact with the liquid while it is in motion.

Fig. 6 (right) illustrates complete assembly of sealed discharge type centrifuge.



done at this time on continuous solids discharge centrifuges to minimize the labor requirement for handling the large proportion of dirt that is present in crude waxes.

Even when commercially clean wax is used in the emulsion formulation and due care exercised to avoid contamination in process, the finished emulsion almost invariably contains some insoluble impurities that upon standing will settle out in the container. It may be said that many of these contaminants do not measurably affect the characteristics of the surface coating, but the importance of having a product that will remain stable on the shelf and not show a layer of dirt, or even specks in the bottom of the container, cannot be overlooked. The average housewife buys in glass because she wants to see what she is getting.

Centrifugal clarification is uniquely applicable to the clarification of emulsions of this type. In a well formulated product, the wax is so thoroughly dispersed that the wax particles are substantially unaffected by the application of even high centrifugal force. On the other hand, the dirt drops easily out in the centrifuge as a compact bowl cake.

The degree of clarification, or dirt removal, that may be obtained by centrifuging in a matter of seconds is far better than will be obtained by gravity settling for many days. Hold

up of product with its attendant risk of loss and inventory expense is avoided. Under centrifugal force, the sediment is compacted to a dense cake which will entrain substantially no wax. A very important saving is thus released, and the expense of dirt disposal is brought to a bare minimum.

From a mechanical standpoint, the clarification of wax emulsions offers certain problems. The same low surface tension that stabilizes the emulsion also causes the product to foam readily. Such foams are annoying, to say the least, to handle in the plant, and the mechanical feature required in any clarifier is the avoidance of foam formation.

In the conventional type of centrifuge, the liquid that discharges from the bowl passes through a vapor or air filled space until stopped by the discharge covers. It was noted that in the handling of varnish this treatment was useful in promoting homogenization and aging. In the handling of wax emulsions, this method creates excessive amounts of foam, and the preferred method of controlling the foam problem is to operate in a full liquid system so that no air or vapor is in contact with the liquid while it is in motion. (Fig. 5). Liquid to be clarified is fed to the bowl under pressure, passes up a hollow tube in the center of the four wings. The bowl is maintained entirely full of liquid at all times, and

as the liquid flows down through the bowl, it is subjected to centrifugal force, clarified, and finally discharged against a positive back pressure head through the outlet pipe. The bowl bottom rotates in liquid tight seals that serve to separate the feed and discharge and also prevent leakage of the discharge out of the centrifuge. In such a system, no air or vapor can come in contact with the wax emulsion from the time it leaves the feed pump until it enters the clarified emulsion receiving tank. The discharge line from the centrifuge is usually submerged under the liquid in the receiving tank. With this system, foaming is reduced to substantially zero.

Even in the sealed discharge type of centrifuge (Fig. 6), some degree of homogenization is effected, and the product is invariably improved and made smoother as a result of centrifuging.

There are many applications for centrifuges in the field of surface coating clarification. This paper has covered two of the more important. The primary advantages of the centrifuge are its small size, relatively high capacity, short retention time and hold up of product, and the fact that the high force compacts the contaminating solids and holds product loss to an absolute minimum.

Modern Insecticide Sprayers

WE in the sprayer and duster industry are very happy to be brought into review by the members of the Insecticide Division. We think it is quite appropriate that the members of the Insecticide Division review the products and the common problems of our closely allied groups. Since the inception of the use of insecticides, the growth of the sprayer and duster industry has been closely parallel to that of the insecticide industry. The problems common to both industries stem from a common root.

Two qualities, low cost and efficiency, are combined in conventional sprayers and dusters. These qualities are essential if the insecticides which they apply are going to continue to enjoy substantial sales demands throughout periods of economic stress.

Not a single new insecticide nor other pesticide can be launched successfully on the market unless suitable equipment is available for its application. This fact has been demonstrated a number of times in the past

*Paper presented at 37th annual meeting CSMA, New York, Dec. 4.

New type compression sprayer equipped with CO₂ Cylinder eliminates hand pumping.

By Earl D. Anderson*

National Sprayer and Duster Association
Chicago, Illinois

ten years. Such a need for suitable equipment has been noted frequently enough to establish, without question, the interdependency of sprayers and dusters with insecticides. In this regard, we believe that the interests of both industries would be served better if the insecticide manufacturer would check with the sprayer and duster industry as to the spraying characteristics of a new product before broadly launching the sale of this product. He might also check any other effects the product might have on the spraying equipment.

The past decade, unlike any before, has been highlighted by the rapid introduction of new types of insecticides, as well as new methods of control and new application equipment. It is not surprising, therefore, that the public may be somewhat confused as to the proper methods, the proper materials, or the proper equipment to be used. Because of this confusion, it might have been foreseen that the sprayer and duster manufacturers, as

well as the insecticide manufacturers, could be the target of some public or consumer criticism. We believe that most of this criticism of equipment is due directly to improper selection. We believe firmly that correct selection for the work to be performed is highly essential and possibly overlooked too frequently. Inasmuch as there is just as broad a selection of sprayers as there is of insecticides for a specific insect control job, new users of our products should be better educated. But the manufacturers of equipment do not wish to take criticism of their products lightly.

Being already committed individually to a program of product research, our Association through its Publicity Committee, is now in the process of preparing a manual covering the proper selection, the proper use, and the proper care of spraying and dusting equipment. This publication will be available in the near future. Of course, we do not expect our first efforts along this line to be a complete cure-all, but we believe strongly that it is a constructive step toward a much needed consumer education program.

All purpose continuous household sprayer for the general application of household insecticides.





Compression type household sprayer with lever action permits building up of pressure prior to spraying. Can also be used as continuous sprayer by depressing of the cut-off valve.



Continuous sprayer with twin nozzle permits application of residual or knock-down sprays by mere interchange of the nozzle.

Naturally, this publication will be devoted to equipment. However, we urge that the Insecticide Division of the C.S.M.A. might have a companion publication on the subject of their products. We think this might be a reasonable solution to some of the consumer problems for the both of us. We know that it is no more common for the consumer to be disappointed in the use of a sprayer which is too small or a sprayer of the wrong type for a specific job, than his disappointment from expecting "knock-down" results from atomizing a residual insecticide into the air. In addition to consumer dissatisfaction, there may also be a health hazard involved. In the interest of future business for both of our industries, we should not neglect such a consumer education responsibility.

With this brief backdrop, I should like to direct your specific attention to a review of our products. I should like to present some illustrations and descriptions of the principal developments in sprayers for the application of household and cattle insecticides, just two of our many applications, as you so well know.

Household Sprayers

THE various household sprayers comprise the class of equipment, which is no doubt of interest to the Insecticide Division. In 1949 there were over 8½ million sprayers of less than one gallon capacity produced in

the United States at a total valuation of over 2½ million dollars, according to the U. S. Census Bureau.

The sprayer manufacturers working with the makers of insecticides, have produced several specific types of equipment to meet the application requirements of the various types of insecticides. Thus the atomizer is made to properly apply the knock down type of insect spray. This type of sprayer is mass produced by the industry and is available through many types of retail outlets at extremely low cost. It has been responsible for bringing chemical fly control and sanitation to more homes than any other piece of equipment. Intermittent in action for simplicity of construction and corresponding low cost, these sprayers are available in several sizes, from four ounces to two quarts. The units are made completely of metal or are equipped with glass jars. A new development in atomizers is the multiple jet sprayer, designed for faster delivery, producing smaller droplets for more effective kill.

Multiple jet intermittent household sprayer—A new development in sprayers for atomizing the knock-down type household insecticide.



The all - purpose household sprayer, like the all-purpose insecticide, is a compromise. Producing a slightly larger droplet spray than the atomizer, it can nevertheless be used for space spraying and also for surface or residual sprays. The brass nozzle provided is removable to allow for cleaning the nozzle and siphon tube. These sprayers are of the continuous acting type, producing a steady flow of spray material on both the back and forward strokes of the pump.

Either a fine fog or a coarse spray may be achieved by providing an adjustable nozzle or by supplying two interchangeable nozzles with different size orifices. The size range of sprayers with this feature is about one pint to three quarts.

A larger sprayer of the household class, usually furnished in about the three-quart size has a cut-off valve. This feature permits operation as a conventional continuous sprayer, or it may be operated as a compression sprayer. In the latter case, a head of air is pumped up into the tank while the sprayer is in a convenient position, with the tank resting on the floor. The insecticide is then discharged as a steady spray simply by depressing the shut-off valve. Some models of these sprayers also have a nozzle adjustment which permits proper application of either the space or the residual sprays. This sprayer, because of its versatility, is recommended for use in the home



Compressed air sprayer above is old stand-by for cattle spraying. Upper right, electric sprayer convenient for moth-treating garments and clothes closets. Lower right, compressed air sprayer with pressure gauge and mounted on sprayer cart for easy transport is used in applying residual insecticides on porches or around doorways.



for any type of insecticide application, and particularly for the larger household jobs such as spraying porch walls and ceilings for residual fly control and for spraying entire closets or wardrobes for clothes moth control. Its most extensive use probably is on farms for spraying dairy cattle. That this type sprayer is suitable for applying dairy sprays on many farms is indicated by data from the last U. S. Census. That source indicates that in the great dairy state of New York for example, over 82½ per cent of the dairy farms had only 20 milk cows or less. There was a noticeable increase in demand for these sprayers during the past season, when farmers took a renewed interest in the knock-down type of fly spray.

Electric Sprayers

SOME sprayers are operated electrically. These portable electric powered units are provided with adjustable nozzles which can be used for either space or residual spray applications. Some models have a built-in time switch adjustable from one to 60 minutes for convenient automatic treatment of large areas. Separate attachments are available for use in applying dusts or paints or for moth proofing upholstered furniture.

Electric sprayers are suitable for use in the home, in dairy barns and in commercial buildings and food processing plants, and they are stand-

ard equipment for many commercial pest control operators.

Sizes range from about one pint to three quarts capacity or larger.

Compressed Air and Knapsack Sprayers

THE compressed air and knapsack sprayers, the largest sprayers designed for carrying by the operator, are used for spraying jobs around the home and the dairy barn where something larger than the household sprayer is required. Tank capacities range from two to five gallons.

There have been numerous recent improvements in these sprayers. Oil- and chemical-resistant hose and gaskets are rapidly becoming standard equipment, in keeping with the use of new solvents by the insecticide manufacturers. Several nozzle discs are included also with each sprayer to provide various spray patterns, such as fog, cone and flat fan for use with the various formulations of insecticides.

Some models of compressed air sprayers are now available equipped with CO₂ gas cylinders to provide automatic operation of the sprayer. The gas-filled cylinders have sufficient capacity to discharge up to 15 gallons of spray material at a uniform spraying pressure, and they can be refilled at a modest cost. With hand pumping eliminated by this device, the full

(Turn to Page 139)

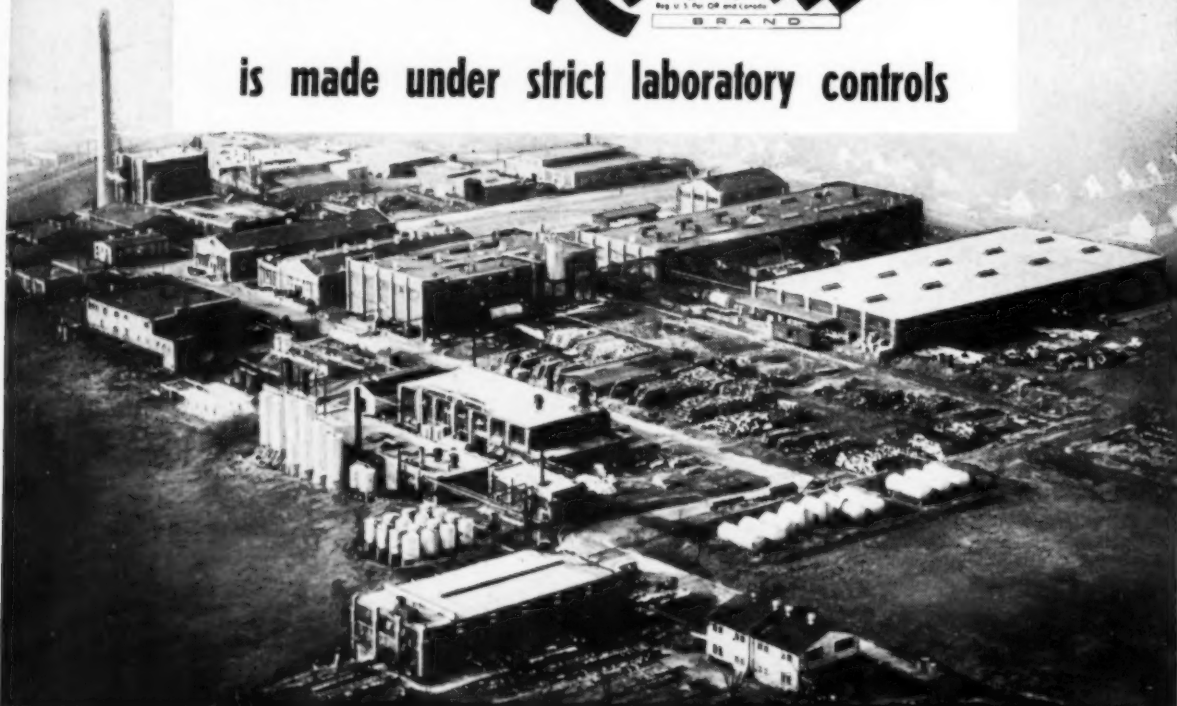


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Further Studies on

Aerosol Formulations with Lethane

and Other Toxicants

By F. B. Maughan, F. M. Mizell and J. P. Nichols*

Rohm & Haas Co., Philadelphia, Pa.

A YEAR ago Lethane, 384 formulations were first indicated by the U. S. Department of Agriculture as eligible for licensing as household aerosols under its Patent No. 2,321,023. During the 1950 season Lethane 384 was employed in a number of commercial brands at two percent and four percent levels, in combination with pyrethrins, piperyonyl butoxide and DDT.

The past year has been an extremely interesting one for the aerosol industry, with the highly promising development of allethrin and new synergists for both pyrethrins and allethrin. It is the purpose of this paper to evaluate the relative knockdown performance of pyrethrins and allethrin, in combination with various synergists and Lethane 384, as a basis for developing practical formulations.

Experimental Procedure

FIVE-DAY-OLD flies of the CSMA strain were employed throughout these studies. The aerosol room was 1500 cubic feet in size, and the temperature was controlled at 80° F. \pm 2°. The various formulas were applied at the rate of 3 grams per 1,000 cubic feet. Counts were made at intervals of 5, 10 and 15 minutes to evaluate the rapidity of knockdown. At the end of each test, the down flies were picked up and placed in re-

covery cages for 24 hours to determine mortality. The up flies were counted but not captured.

The experimental procedure followed in part that prescribed by the Scientific Committee for evaluation of aerosols. In these studies, however, a wooden paddle similar to a propeller was employed to assist in dispersing the toxicants throughout the aerosol room immediately upon their introduction.

After each test, the room was ventilated until no trace of the previous spray could be detected. The heavy bogus paper covering the floor was changed frequently, and the walls and ceiling of the room were washed twice each day. Control tests of flies were

released in the room twice each day to verify testing conditions.

Discussion

IN evaluating the formulations presented in this paper, TOTA was regarded as a standard of performance not only at the 15-minute exposure period but at the 5- and 10-minute intervals also. Five- and ten-minute knockdown data are important in judgment of household aerosols. This importance stems not only from consumer appeal but, more fundamentally, for a reasonable degree of satisfactory performance. Actual use conditions are so often less favorable than controlled test procedures.

Table 1 presents data on formulations employing MGK 264 as the

TABLE 1
Comparison of Aerosol Formulations

Formula	Le- thane 384	Pyre- thrins	Alle- thrin	DDT	MGK-264	Knock- down %			% Kill Down Flies
						5	10	15	
1	Tota	.4	—	2	—	31	82	95	100
2	—	—	.4	2	—	46	88	97	100
3	4	—	.1	2	—	36	86	98	100
4	—	.15	—	2	2	22	71	94	100
5	—	—	.2	2	2	23	76	93	100
6	2	.1	—	2	1	16	70	94	100
7	2	—	.1	2	1	22	74	97	100
8	4	.1	—	2	.5	32	79	96	100
9	4	—	.1	2	.5	34	88	98	100

*Paper presented before 37th Annual Meeting Chemical Specialties Manufacturers Association, New York, December 5.



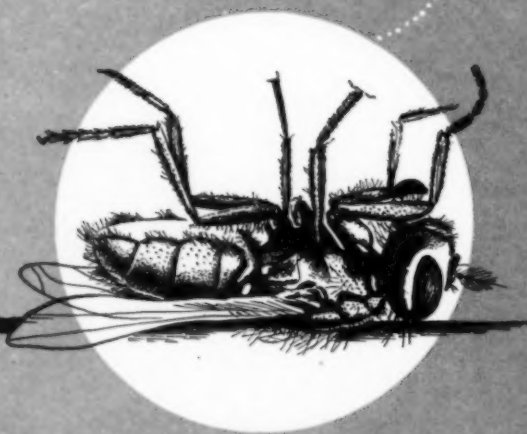
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synergist. Formula 1 is TOTA, the Tentative Official Test Aerosol. The second formula is a direct substitution of allethrin for the pyrethrins content of TOTA. The improved knockdown resulting at all intervals during the 15-minute test period is apparent.

Formula 3 indicates the ability of Lethane at the four per cent level to adequately replace a substantial portion of the allethrin content of Formula 2.

Formula 4 is a combination of 0.15 per cent pyrethrins, two per cent DDT and two per cent MGK 264, and is understood to be an acceptable formulation for federal registration. While duplicating TOTA in final knockdown and kill, this formula is somewhat slower in knockdown during the first 10 minutes.

Formula 5 was included as a combination to equal the pattern of performance established by TOTA. It will be noted, however, that in this test series, this formula falls somewhat short of TOTA's performance during the first ten minutes.

In Formula 6, two per cent Lethane 384 was tested with reduced levels of pyrethrins and synergist. The resulting product is considered inadequate in knockdown performance, particularly during the first five minutes.

Formula 7 represents a direct substitution of allethrin for the pyrethrins content of the previous formula. While some improvement in

knockdown is experienced, there remains too much lag in the important factor of early knockdown to consider this product comparable to TOTA. Possibly, an increase in MGK 264 to the 1.5 per cent level would provide the knockdown improvement desirable in this case. It is understood that such a modified formulation—two per cent Lethane 384, 0.1 per cent allethrin, 1.5 per cent MGK 264, two per cent DDT—is acceptable for federal registration.

Formula 8, using Lethane 384 and pyrethrins, showed performance comparable to TOTA throughout the test period. When allethrin was substituted for pyrethrins in Formula 9, further improvement in knockdown was obtained at all intervals in the test period. Test work completed suggests that combinations of Lethane 384, MGK 264 and DDT work well with either pyrethrins or allethrin.

Table 2 presents data on formulations employing piperonyl butoxide as the synergist. Earlier investigations on Lethane 384 at two per cent and four per cent levels with pyrethrins, piperonyl butoxide and DDT established acceptable aerosol formulations. In the Table 2 series, primary attention is focused on allethrin as a substitute for pyrethrins.

TOTA is listed first to establish a performance standard. This is followed by the allethrin equivalent of TOTA showing improved performance. Formula 12 indicates perform-

ance obtainable through replacement of a substantial portion of the allethrin content of the second formula by four per cent Lethane 384.

Formula 13—0.25 per cent allethrin, 0.5 per cent piperonyl butoxide and two per cent DDT—was tried as a combination to equal the performance pattern established by TOTA. It will be noted that this product closely duplicates TOTA's performance at all intervals in the test period, and hence may be considered its equal.

In Formula 14, two per cent Lethane 384 was tried with reduced levels of 0.1 per cent allethrin and 0.25 per cent synergist with two per cent DDT. While final knockdown is good, performance during the first ten minutes falls short of TOTA and this may be considered a marginal formula.

In Formula 15 the concentration of piperonyl butoxide was increased from 0.25 per cent to 0.8 per cent, in the belief that this might raise the formula above marginal performance. No significant improvement was indicated.

Formula 16—two per cent Lethane 384, 0.15 per cent allethrin, 0.6 per cent piperonyl butoxide and two per cent DDT—explores the possibility of improved performance by increasing the concentration of allethrin. This increase in toxic agent content resulted in a product fully comparable to TOTA in overall performance.

Formula 17—four per cent Lethane 384, 0.1 per cent allethrin, 0.25 per cent piperonyl butoxide and two per cent DDT—represents a Lethane modification of Formula 14. The increase in Lethane 384 content to four per cent resulted in a substantial improvement in knockdown.

The last three formulas in Table 2 contain no DDT. It should be noted that the knockdown performance of Formula 18 is highly superior to TOTA.

When the pyrethrins content is decreased to 0.25 per cent as in Formula 19, the use of two per cent
(Turn to Page 131)

TABLE II
Comparison of Aerosol Formulation

	Le- For- mula	thane 384	Pyre- thrins	Alle- thrin	Piperonyl Butoxide	DDT	Knock- down %			% Kill Down Flies
							5	10	15	
10	Tota		.4	—	—	2	31	82	95	100
11	—		—	.4	—	2	46	88	97	100
12	4		—	.1	—	2	36	86	98	100
13	—		—	.25	.5	2	30	78	94	100
14	2		—	.1	.25	2	12	72	98	100
15	2		—	.1	.8	2	13	75	95	100
16	2		—	.15	.6	2	28	87	97	100
17	4		—	.1	.25	2	32	92	99	100
18	—		.4	—	1.0	—	80	94	100	100
19	2		.25	—	1.0	—	78	95	100	100
20	4		.2	—	1.0	—	75	97	100	100



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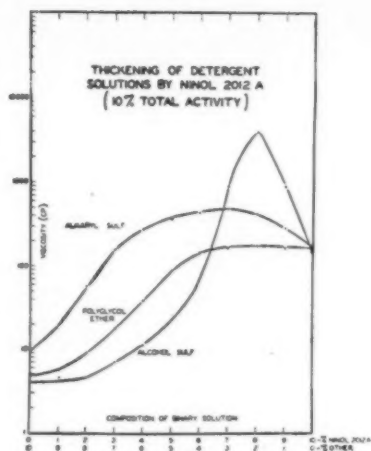


Figure 7

Detergent Solutions

(From Page 41)

sulfonate solutions were moderately non-Newtonian. The Ninols again showed almost Newtonian behavior.

On the basis of these tests and other experimental work, it is concluded that most detergent solutions are practically Newtonian up to concentrations of about twenty percent. At very high viscosities, however, say over 10,000 cp., there may be a departure from this behavior in some cases, but generalization is difficult.

The term "thixotropy" is one that is often mentioned in viscosity work, but there appears to be considerable confusion as to its meaning. In some places, for instance, it is defined as a decrease in viscosity at higher rates of shear. This however, simply describes non-Newtonian behavior in general, and such systems are not necessarily thixotropic. The essential feature of thixotropic behavior is a time-lag, or "memory-effect." A system is thixotropic only if it shows a decreased viscosity for some time after stirring stops. In other words, a temporary breakdown of internal structure occurs on stirring, which takes some time to disappear after stirring stops. An extreme case of thixotropic behavior is shown by bentonite gels which are rigid on standing, but liquefy on shaking, and remain liquid for some time after shaking. Any non-Newtonian system will exhibit a diminished viscosity while being stirred at

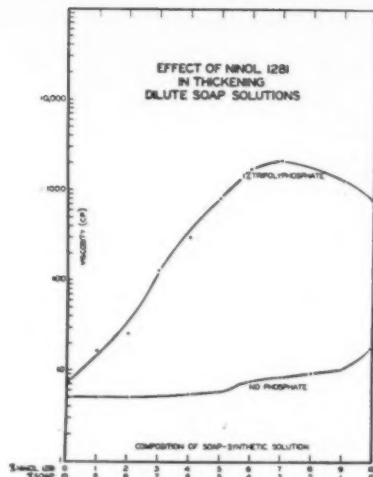


Figure 8

higher speeds, but if it returns to the original viscosity as soon as stirring stops, then it is not thixotropic.

The detergent solutions studied here were tested for thixotropy by measuring the viscosity with the Brookfield at 6 r.p.m., then at 60 r.p.m., and finally at 6 r.p.m. again, as rapidly as possible. In all cases the first and last readings were practically equal, indicating the absence of appreciable thixotropy.

Some work was also carried out on mixed detergent solutions. Many synthetics give solutions of rather low viscosity in the ten percent concentration range, and this is undesirable from a consumer point of view. Since "Ninol 2012A" imparts considerable viscosity at low concentrations, mix-

tures were studied in which this Ninol and another detergent were present in various ratios, the total concentration being maintained arbitrarily at 10% active ingredient.

Fig. 7 shows the viscosities resulting when the "Ninol 2012A" was added to an alkaryl sulfonate, alcohol sulfate or polyglycol ether in different ratios. As can be seen, the alkaryl sulfonate thickened most readily, while the alcohol sulfate required the largest amount of the "Ninol 2012A." In general, though, the high-viscosity characteristics of the Ninol were still manifest in the presence of the second detergent.

All of the foregoing work was carried out with very little electrolyte present, and a brief study of the effect of salts was therefore carried out on both single and mixed detergent solutions. For this purpose 2% of either sodium tripolyphosphate or potassium acetate was added to the solution and the viscosities measured. The phosphate was chosen as representative of a good detergent builder; the potassium acetate was selected as a simple alkaline electrolyte having no sodium ion capable of forming low-solubility soaps, and no polyvalent anion. The results are shown in Table 2.

It is evident that the addition of salts to 5% solutions of the single detergents produced no large viscosity increases, and resulted in a decrease in most cases. However, addition of

TABLE II
Effect of Salts on Viscosity

Detergent Solution	Viscosity (cp.) After Adding:—		
	Nothing	2% Sod. Tripolyphos.	2% Pot. Acetate
<i>Single Detergents</i>			
5% NINOL 2012A	167	4*	4*
5% Polyglycol	4	4	4
5% Alkaryl Sulfonate	4	5	4*
5% Alcohol Sulfate	4	4	24*
5% Potash Soybean Soap	4	8	9
<i>Mixed Detergents</i>			
5% NINOL 2012A			
5% Alkaryl Sulfonate	400	120	105
5% NINOL 2012A			
5% Alcohol Sulfate	32	1313	294
5% NINOL 2012A			
5% Potash Soap	4	26000	5500

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Polyethylene's surface characteristics can be improved by water soluble alkyl aryl polyglycol ethers. These are made from alkyl phenol and ethylene oxide and applied as an aqueous solution containing from 0.25% to 10% by weight of the ether. Deposition should amount to two to fifty milligrams of alkyl aryl polyglycol ether per square yard of film surface. Deposition temperatures should be maintained within the range 0° to 45°C.

Long chain compounds of the alkyl heterocyclic type can be made by condensing 2-nitro- or 2-amino-4-alkyl phenols with suitable substances to affect ring closure. Resulting products show properties not demonstrated by their unsubstituted or short-chain homologues.

An addition agent for mineral oil lubricants is produced by causing a long chain phenol to react with sulfur monochloride and phosphorus sesquisulfide. This additive confers excellent pressure-carrying, corrosion-inhibiting and detergent properties on the oils. Corrosion-inhibiting properties may be increased by adding a condensation product of the aluminum salt of the alkyl phenol derivative and formaldehyde or a formaldehyde-yielding product.

These developments are abstracted from recent publications of U. S. patents. The uses may suggest other applications of Jefferson Alkyl Phenol C-9 in your products or processes.

salts to mixed detergent solutions resulted in large viscosity increases, particularly with mixture of Ninol and potash soaps. It should be noted that potassium acetate, though not as effective as the polyphosphate, did give very large viscosity increases, hence the indications are that this may be a general salt effect, not limited to any particular type.

This effect is shown in more detail in Fig. 8, in which the viscosities of various mixtures of "Ninol 1281" and potash soybean soap are plotted, both with and without 1% sodium tripolyphosphate added. The "Ninol 1281" was selected because of the fact that it possesses exceptional compatibility with soaps, and is often used in such mixtures. As can be seen, there is a great increase in viscosity at all points when 1% of polyphosphate is added. This effect makes it possible to produce scrub soap solutions of low solids but high viscosity (with good detergency and foam). Soap-synthetic cleaners of this type are, in fact, becoming increasingly popular today.

It therefore appears that products such as liquid cleaners, shampoo concentrates, pine oil jellies and the like can be thickened without the use of gums, if appropriate detergents of the high-viscosity type are selected. Many products already on the market are in fact, employing such materials very successfully.

Lethane in Aerosols

(From Page 127)

Lethane 384 approximates the effectiveness of the straight pyrethrins—piperonyl butoxide combination. In Formula 20, further reduction of the pyrethrins content is made possible by use of four per cent Lethane 384.

This test series indicates that combinations of Lethane 384 and piperonyl butoxide produce suitable combinations with both pyrethrins and allethrin. Further work is indicated for non-DDT combinations of these several materials.

Table 3 presents data on formulations employing n-propyl isome and Sulfox-Cide as synergists. The

TABLE III
Comparison of Aerosol Formulations Containing Lethane 384, Pyrethrins, Allethrin, DDT, and the Synergists, N-Propyl Isome and Sulfox-Cide

Formula	Lethane 384	Pyrethrins	Allethrin	n-Propyl Isome	Sulfox-Cide	DDT	Knock-down %			% Kill Down Flies
							5	10	15 Minutes	
21	Tota	.4	—	—	—	2	31	82	95	100
22	—	—	.4	—	—	2	46	88	97	100
23	4	—	.1	—	—	2	36	86	98	100
24	—	.2	—	1.0	—	2	24	81	94	100
25	—	—	.2	1.0	—	2	24	77	93	100
26	2	.1	—	1.0	—	2	15	71	94	100
27	2	—	.1	1.0	—	2	11	73	95	100
28	—	.2	—	—	1.0	2	70	96	98	100
29	—	—	.2	—	1.0	2	29	80	96	100
30	2	.1	—	—	.8	2	41	92	100	100
31	2	—	.1	—	.8	2	24	88	99	100

first three formulas in the preceding tables are repeated here.

Formula 24 is a combination of 0.2 per cent pyrethrins, one per cent n-propyl isome and two per cent DDT. While lagging somewhat in knockdown during the first five minutes, this formula duplicates TOTA's performance beyond that point.

In Formula 25, allethrin is substituted for pyrethrins and approximately the same results are obtained. Two per cent Lethane 384 was combined with a reduced level of 0.1 per cent pyrethrins, one per cent n-propyl isome and two per cent DDT, and resulted in poor performance during the first ten minutes. In Formula 27 a shift from pyrethrins to allethrin results in the same grade product characterized by poor early knockdown.

This series was interrupted before quality formulations employing two per cent and four per cent Lethane 384 could be developed. The work completed suggests that combinations of Lethane 384, n-propyl-isome and DDT were satisfactory with either pyrethrins or allethrin. It would appear that quality formulations might be produced either by adding approximately .05 per cent of the respective pyrethrins or allethrin to the sixth and seventh formulas, or by increasing the Lethane 384 content of each from two per cent to the four per cent level.

The last four formulas in Table 3 represent a series employing Sulfox-Cide as the synergist. Formula 28

which contains 0.2 per cent pyrethrins, one per cent Sulfox-Cide and two per cent DDT proves to have extremely high early knockdown.

An interesting contrast is established with the next formula (#29), in which allethrin is substituted for pyrethrins. The result is a sharp drop in early knockdown, although the product does maintain the TOTA standard.

Formula 30, composed of two per cent Lethane 384 with levels of 0.1 per cent pyrethrins, 0.8 per cent Sulfox-Cide, and two per cent DDT, results in substantial reduction of the 5-minute knockdown of the first Sulfox-Cide formula (#28) above. The latter formula, however, gives a higher level of performance than does TOTA in respect to all three knockdown levels.

The last formula in this table (#31) substitutes allethrin for pyrethrins and again results in substantial loss of early knockdown.

The investigations suggest that Sulfox-Cide possesses desirable properties with pyrethrins. Lethane 384 is highly satisfactory with such combinations.

Conclusions

THESE investigations indicate that combinations of allethrin, the several synergists and Lethane 384 will result in highly satisfactory aerosol formulations with or without pyrethrins.

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NC51-1

A "capacity" test for

GERMICIDAL ACTION

By **A. Cantor**, Biology Dept., Akron University
H. A. Shelanski, Industrial Toxicology Labs.

THE term "capacity" is used herein in a physical sense, that is, as an attribute of germicides which determines the maximum number of incrementally added microorganisms, plus rigidly defined extraneous matter in solution or suspension, sterilizable by a given quantity of the germicide. In germicide evaluation methods currently favored, a fixed number of microorganisms is simultaneously and, to that extent, uniformly exposed to a fixed volume of germicidal solution in a test tube. This is a procedure which has little, if any, analogy to the actual application or use of germicides or antiseptics. Two extremes in the use of germicides may be represented by sanitizing dishes and by treating a body cavity or wound. In both cases, microorganisms plus extraneous matter are being split-fused to, or incrementally admixed with, germicidal depots. The germicidal capacity is obviously a function of, among other things, the stability of the active ingredients in the presence of the incrementally admixed extraneous matter.

The following is a simple illustration of the basic procedure. We prepared as if to run phenol coefficient determinations, by the Food and Drug Administration method (1), using *Micrococcus pyogenes* var. *aureus* as the test organism. However, in addition to adding 0.5 ml of culture in one dose, and simply testing for ster-

ility, we used the additional procedures shown below.

TABLE 1.

Run No. 1
5. ml 100 ppm iodine plus
2. x 10 ⁸ S. aureus (0.5 ml culture)
plus one minute yields
100 per cent kill
Run No. 2
5. ml 100 ppm iodine plus
1.2 x 10 ⁸ S. aureus (0.3 ml culture)
plus one minute yields
100 per cent kill plus 5. minutes plus
.8 x 10 ⁸ S. aureus (0.2 ml culture)
plus one minute yields
10 ⁷ S. aureus

Runs No. 1 and No. 2, Table 1, illustrate that where a given number of organisms plus extraneous matter

(FDA phenol coefficient broth) are added in one dose, as in the phenol coefficient test, sterility resulted, whereas the same quantity of germicide failed to sterilize the same total number of organisms plus extraneous matter, when added incrementally.

In Runs No. 3 and No. 4, Table 2, two elemental iodine preparations were compared, both containing the same ppm of titratable elemental iodine. When the two products were compared by the standard phenol coefficient procedure, no difference in germicidal capacity was detected. It may be well, at this point, to draw an obvious analogy with the familiar chemical titration procedure. The present phenol coefficient practice of setting up a series of dilutions of the germicide (reagent A), to each of which is added a fixed concentration of a suspension of microorganisms (reagent B), is an obtuse way to go about

TABLE 2.

Run No. 3	Run No. 4
5. ml 100 ppm iodine plus	5. ml 100 ppm detergent iodine* plus
2. x 10 ⁸ S. aureus (0.5 ml culture)	2. x 10 ⁸ S. aureus (0.5 ml culture)
plus one minute yields	plus one minute yields
100 per cent kill plus one minute plus	100 per cent kill plus one minute plus
4. x 10 ⁸ S. aureus plus one minute yields	4. x 10 ⁸ S. aureus plus one minute yields
2. x 10 ⁸ S. aureus	100 per cent kill

*Dynepal—a detergent iodine product supplied by West Disinfecting Co., Long Island City, N. Y.

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TABLE 3.

The Comparative Germicidal Capacities of 5 Sanitizing Solutions. (A cumulative total of 50.10^8 *E. typhosa* organisms was added to 500. ml of each germicide; each of the 10 increments was 2.5 ml of bacterial suspension, or $5. \times 10^8$ bacteria; and a ten minute interval elapsed between the addition of successive increments.)

Increment Number	Exposure time (sec)	QAC 200 ppm	Available Chlorine 200 ppm	Detergent Iodine 100 ppm	Detergent Iodine 50 ppm	USP Tr. Iodine 100 ppm
		% Kill	% Kill	% Kill	% Kill	% Kill
1	15	100.	100.	100.	100.	100.
	30	100.	100.	100.	100.	100.
2	15	100.	100.	100.	100.	100.
	30	100.	100.	100.	100.	100.
3	15	99.95	99.96	100.	99.91	100.
	30	100.	100.	100.	100.	100.
4	15	99.95	< 95.	100.	99.5	100.
	30	100.	< 95.	100.	99.9	100.
5	15	99.92	< 95.	100.	< 95.	100.
	30	99.95	< 95.	100.	< 95.	100.
6	15	99.80	< 95.	100.	< 95.	99.
	30	99.95	< 95.	100.	< 95.	100.
7	15	99.80	< 95.	99.9	< 95.	< 95.
	30	99.95	< 95.	100.	< 95.	< 95.
8	15	< 95.	< 95.	< 95.	< 95.	< 95.
	30	99.	< 95.	< 95.	< 95.	< 95.
9	15	< 95.	< 95.	< 95.	< 95.	< 95.
	30	< 95.	< 95.	< 95.	< 95.	< 95.
10	15	< 95.	< 95.	< 95.	< 95.	< 95.
	30	< 95.	< 95.	< 95.	< 95.	< 95.
	5 minutes	< 99.95	< 95.	< 95.	< 95.	< 95.

obtaining a measure of the capacity of reagent A (germicide) for reagent B (microorganisms plus extraneous matter).

Currently favored methods for the evaluation of germicides for use in sanitizing dishes test the germicide in the manufacturer's recommended use dilution (2), (3), in an attempt to obtain more meaningful information about the operating efficiency under conditions of use. In these methods, the test organism is a suspension of *E. coli*, washed from the surface of nutrient agar with either buffered water, or with the tap water to be used as a diluent for the germicide. It seems unfortunate that the familiar FDA phenol coefficient broth was not used to grow the organism, unless it was necessary to eliminate the greater halogen inactivating effect of such a menstruum. As is pointed out in one of the above reports (3) the organic matter carried over into bactericidal rinses adversely affects halogens and quaternary ammonium compounds.

We proceeded, therefore, to compare sanitizing solutions in their use dilution, by measuring their germicidal capacities against *E. typhosa*, grown in FDA phenol coefficient broth.

For the purpose of testing the germicide under adverse conditions, the amount of soil or organic matter was increased by mixing an equal volume of sterilized whole milk, with 24 hour phenol coefficient broth suspension of *E. typhosa*. This resulted in a test culture suspension of 2×10^8 bacteria per ml of menstruum, containing approximately 6 per cent whole milk solids. Each increment, or dose, of the test culture suspension added to the germicide, was 2.5 ml, or $5. \times 10^8$ bacteria.

The sanitizing solutions tested were a commercial quaternary ammonium compound (QAC), a commercial hypochlorite, and the detergent iodine compound referred to above. In the case of the hypochlorite and the iodine products, the final concentrations of

available chlorine and of elemental iodine were checked by titration.

The standard test portions of sanitizing solution, to which the 2.5 ml increments, or doses, of test culture suspension were added, were 500 ml in 1. liter flasks. The temperature of the 500 ml test solutions was 25° C.

Before each addition of test culture, the flasks were swirled vigorously, and kept agitated, until after samples were removed for plating. At zero time, 2.5 ml of test culture were added. At exactly 15 seconds, and again at 30 seconds, samples from the flask were pipetted directly into an excess of inactivating agent contained in one ml of solution in petri dishes. The inactivating agent was Difco Neutralizing Buffer, containing sodium thiosulfate and an aryl sulfonate complex. Tryptone glucose beef extract agar (Difco) was used as the culture medium. Ten minutes after the addition of the first dose of bacteria, a second dose was added, and again 15 and 30 second samples were taken into petri dishes containing inactivator. This addition of a dose of bacteria was repeated every 10 minutes, until a total of 10 doses was added. In addition, 500 ml portions of the same use dilution concentrations of the germicides were tested against the same cumulative total of the test culture suspension added in a single large dose (25. ml). These flasks were likewise plated at 15 and 30 seconds.

A comparison of the results in Table 3, where the contaminating soil was incrementally added, with the results in Table 4, where the same cumulative total dose of contaminated soil was added in one dose, illustrates that the capacity test measures operating differences between the germicides which are not detected by the currently favored methods.

The relative germicidal capacities of the sanitizing solutions in Table 3 may be compared with each other either on the basis of 100 per cent kill or on the basis of comparable, less than 100 per cent kills. If 100 per cent kill in 30 seconds is used as the criterion, gross differences are seen. The 200 ppm available chlorine sterilized three doses of soil. With this as

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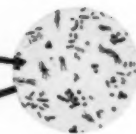
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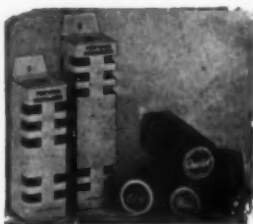
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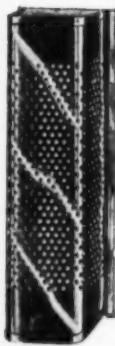
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TABLE 4.
The Comparative Germicidal Action of 5 Sanitizing Solutions.
(A single dose of $50. \times 10^3$ *E. typhosa* organisms, in 25. ml of suspension, was added to 500. ml of each germicide.)

Exposure time (seconds)	QAC 200. ppm	Available Chlorine 200. ppm	Detergent Iodine 100. ppm	Detergent Iodine 50. ppm	USP Tr. Iodine 100. ppm
	% Kill	% Kill	% Kill	% Kill	% Kill
15	99.83	99.63	100.	100.	100.
30	100.	100.	100.	100.	100.

a reference point, the germicidal capacities of the other materials were: one and one third times greater with the QAC; two and one third times greater with 100 ppm detergent iodine, the same with 50 ppm detergent iodine; and two times greater with 100 ppm iodine prepared from U. S. P. tincture of iodine. Where 100 per cent kill in 15 seconds is the base, with the chlorine as the reference material, the QAC is the same; the 100 ppm detergent iodine is three times greater in capacity; the 50 ppm detergent iodine is the same; and the 100 ppm U. S. P. tincture of iodine is two and one half times greater in capacity. Where 99 per cent kill in 30 seconds is used as a criterion, the QAC is seen to be most effective. However, such a criterion is not currently in favor (2). The greater capacity of the QAC to accomplish a slow partial kill, is more strikingly indicated when 5 minute exposure times are used. That is, after adding the tenth dose of bacteria, subcultures were made after 5 minutes, as well as after 15 and 30 seconds. After the 5 minute interval, the percentage kill with the halogens remained less than 95 per cent, but was 99.95 per cent with QAC. The iodine in the aqueous dilution of the U. S. P. tincture of iodine, used as one of the reference materials, is so volatile and rapidly lost from the solution, when held in an open container, as to make it less practical for use than is indicated by the above results.

The incremental addition, or split-feeding, of test organisms plus extraneous matter, to a germicide, offers a basic method for testing the capacity of germicides, in which the basic procedure can remain fixed regardless of the field of application of the germicide. The primary variable in the use of germicides as sanitizing

solutions and as wound germicides or antiseptics, is in the nature of the extraneous matter or soil. It has been calculated (4) that only 2 per cent of the chlorine used in the treatment of water supplies is used to destroy bacteria, and that the remaining 98 per cent is used against mineral and organic matter. With this in mind, it seems a step away from conditions of use, when it is suggested that the test suspension of bacteria be a water suspension washed from the surface of nutrient agar, rather than the familiar, well defined, phenol coefficient broth suspension. The concentration of soil, or organic matter, encountered by germicides used in dishwashing or sanitizing, or in body cavities or wounds, can only be greater than that present in tap waters of variable composition.

We believe that the government agencies concerned with the testing of germicides should rigidly define a number of standard diluents. Each diluent should duplicate, as closely as possible, the extraneous matter normally encountered when antiseptics and germicides are used in their various applications. The appropriate diluent, or diluents, to be used in testing a given germicide would be dictated by the recommended use, or uses, for the particular product. The diluent should be used to prepare a single specified dilution of the test organism.

The culture dilution should be the same, regardless of the intended use for the germicide, since the composition of the diluent will be the variable fixed as a function of the recommended use. The culture dilution, if correctly chosen, should contain such a number of viable bacteria, in each increment, as will permit the use of the familiar end point for the sterility of the germicide-bacteria suspension

(i.e. the loopful subculture into a tube of broth, containing a specific germicide neutralizer where indicated).

When a single dose of bacteria is mixed with such a volume of germicide as should be just adequate to kill all the bacteria, a condition of equivalence exists which favors a variable percentage survival of more resistant members of the bacterial population added. Such an equivalence puts an excessive burden on the sterility end point and contributed, in part, to the introduction of end points other than the 100 per cent kill. However, the incremental addition of doses of bacteria, where each dose represents a fraction of the total number which can be killed by the germicide, creates a testing situation in which the technically-hazardous area of equivalence between germicide and bacteria is not reached until after a number of increments has been added.

The concentration of the solutes, or suspended matter, in the diluent standards, should be so chosen that when the volume of each increment is the smallest volume accurately measurable with the standard serological pipet, a practically meaningful addition of extraneous matter will have taken place upon each addition of such an increment to a fixed, relatively large volume of the germicide, in its use dilution. The minimum time interval between increment addition and subculture, are dictated, in part, by the problems of laboratory manipulation of the test. The maximum time intervals to be recommended may have a fundamental bearing upon the relative merits of, for example, two widely used and basically different groups of germicides, the halogens and the quaternary ammonium compounds.

1. Circular No. 198; Dec. 1931. U. S. D. A., Washington, D. C.
2. Weber, G. R., and Black, L. A., Laboratory Procedure for Evaluating Practical Performance of Quaternary Ammonium and Other Germicides Proposed for Sanitizing Food Utensils. *American Journal of Public Health*; 38; 1405-1417; 1948.
3. Butterfield, C. T., Wattie, E., and Chambers, C. W. Bactericidal Efficiency of Quaternary Ammonium Compounds. *Public Health Reports*; 65; 1039-1056; August 18, 1950.
4. McCulloch, E. C. Disinfection and Sterilization, p. 334, 2nd ed., 1945, Philadelphia: Lea and Febiger.

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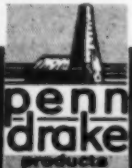
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Modern Sprayers

(From Page 123)

capacity of the tank can be utilized for spray material. Another model of larger capacity consists of two tanks joined together and adapted to carrying on the back like a knapsack.

There are other equipment developments also, which have been directly responsible for expanding the market for insecticides. Thus for example, it was not practical for the average home owner to protect his backyard picnic or recreation area from flies, mosquitos, chiggers, etc., until the sprayer manufacturer developed the two- or three-nozzle hand boom. With this boom attached to the compressed air sprayer, it is possible to spray the hiding places of flies and mosquitoes in the lawn and foundation plantings. Occasional sprayings through the summer months have effectively rid such areas of these insect pests and delighted the homeowner with the marvels of modern insect control methods. The sprayer cart, another new development, is particularly useful for transporting the sprayer when spraying an entire lawn area for chigger control, or for use when the area to be sprayed is located some distance from the water source.

The term knapsack sprayer properly describes a sprayer which is carried on the back like a knapsack, despite its frequent misuse to describe a compressed air sprayer, which is commonly carried by means of a shoulder strap. We raise this point because there is also a distinct difference in construction, which affects their respective operating characteristics and use. Thus, maximum pressure developed with the self contained air pump of the compressed air sprayer is about 50 p.s.i. whereas the hydraulic or liquid type pump makes possible pressures of from 80 to 180 p.s.i. maximum with the knapsack sprayers. Three different types of pumps are used with these sprayers—the piston, diaphragm and external slide pump. A pressure chamber is provided to develop a steady spray when the pump is operated. The tank capacity of these sprayers ranges

from four to six gallons. The knapsack sprayers are of particular interest to the Insecticide Division through their use in applying dairy cattle and dairy barn sprays.

Other Hand-Operated Sprayers

Of less interest to your group, and yet worthy of mention, are the hand-operated spray pumps and the wheelbarrow sprayers. The stirrup or bucket pump and the slide type pump are used in conjunction with a separate container for the spray solution. This inexpensive, but highly efficient equipment, is used primarily for spraying outside the home, such as in the barns. Greater capacity and higher pressures are provided by the barrel sprayer, which is similar in construction to the bucket pump, but larger in size and of heavier construction.

The wheelbarrow sprayer is one of the largest complete mobile units designed for hand operation. With a tank capacity of 12 to 18 gallons and developing pressures up to 250 p.s.i., it is useful where low cost is a factor on dairy farms.

Power Equipment for Cattle Spraying

THE new power wheelbarrow sprayer, the smallest of the power sprayer group, is characterized by rubber tire mounting and balanced weight design for easier operation. The piston type pump, powered by an air-cooled engine or electric motor, will deliver 1½ to two g.p.m., at pressures up to 250 p.s.i. Positive agitation is provided to permit the use of a wide range of insecticide formulations. Tank capacities range from 12½ to 18 gallons. This unit fills the small power sprayer requirements for many dairy farm operations, food processing establishments and for estates. It is recommended to the research workers who, for test work, want a basic spray mechanism which can be adapted to special research problems.

The estate or small wheel mounted power sprayer—next larger in size—provides tank capacities from 25 to 50 gallons, and 1½ to four g.p.m. discharge at pressures up to 250 or 300 p.s.i. Trailer hitches are available for transporting the larger size units by truck, tractor or car.

Cooperation Needed

IN conclusion, our industry is proud of the many new and improved models of sprayers now available for insecticide application, and of the part they are playing in expanding the market for insecticides.

Form Pesticide Committee

The problem of securing basic raw materials for the production of pesticides was discussed at a recent meeting of the Pesticide Industry Advisory Committee with officials of the National Production Authority, in Washington. Difficulties in securing raw materials for the production of DDT, benzene hexachloride and other insecticides, production capacity for which the industry has to meet all needs, were discussed.

Industry members present for the meeting, at which a DDT Industry Advisory Committee was appointed, included:

Thomas H. McCormack, Grasselli Chemicals Dept., Du Pont, Wilmington; Paul Mayfield, Hercules Powder Co., Wilmington; Walter C. Bennett, Phelps-Dodge Refining Co., New York; D. F. Murphy, Rohm & Haas Co., Philadelphia; John Paul Jones, Stauffer Chemical Co., New York, John A. Rodda, U. S. Industrial Chemicals, Inc., New York, Arthur Mohr, California Spray - Chemical Corp., Richmond, Calif.; Byron Webster, Chipman Chemical Co., Bound Brook, N. J.; Ernest Hart, Niagara Chemical Div., Food Machinery & Chemical Corp., Middletown, N. Y.; George Leonard, Tobacco By-Products and Chemical Corp., Richmond, Va.; J. Regenstein, Jr., Velsicol Corp., Chicago, Harold Davis, Alabama Chemical Corp., Huntsville, Ala., W. Mercer Rowe, Flag Sulfur & Chemical Co., Tampa, Fla.; James McConnon & Co., Winona, Minn.; John Stoddard, John Powell & Co., New York; W. J. Ljipfert, Woolfolk Chemical Works, Fort Valley, Ga.; J. G. Brunton, Kolker Chemical Works, Newark, N. J., E. R. Cashman, E. I. du Pont de Nemours & Co., Wilmington; H. J. Langhorst, American Cyanamid Co., New York.

In addition to Messrs. Brunton, Cashman, Davis and Hart, the following industry representatives attended the DDT industry advisory committee meeting:

Mark Biddeson and J. F. Kirk, General Chemical Co., New York; Oskar Frey, Cincinnati Chemical Works, Norwood, O.; C. E. Gerlach, Michigan Chemical Co., St. Louis, Mich.; Carlos Kampmeier, Rohm & Haas Co., Philadelphia; H. C. Koehler, Monsanto Chemical Co., St. Louis, Mo.; Dr. P. Rothberg, Montrose Chemical Co., Newark, N. J.

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SOAP and SANITARY CHEMICALS

Soap Observer

(From Page 87)

a rather tall tower to insure the particle being in the tower long enough to be dried. The hottest air strikes the soap particle first which aids in puffing the bead. This is enhanced by a low pressure at the nozzle and by superheating at (Q). The conditions of operation are better understood by a concrete example. Let us assume the tower is designed to evaporate 1,800 pounds of water per hour and a light beaded product of 10 pounds per cubic foot density is desired, running 60 per cent soap, 30 per cent neutral sodium silicate and the balance water, etc.

A suitable crutcher formula for such a mixture would be as follows:

52% neat kettle Soap at 63% F. A. content
48% neutral sodium silicate, 42 B6.
(Ratio 3,22)

100%

The moisture content of this mixture is 45 per cent of which 39.5 per cent is evaporated to yield 60.5 per cent product. Tower capacity on this product is, therefore, 2,750 pounds per hour from 4,500 pounds of crutcher mixture. Two 3000 pound crutchers would be required. A hot air inlet temperature of 450-500° F. at a pressure of 20 to 30 atmospheres psi. with the slurry superheated to 220° F. and an air circulation of 20,000 cubic feet per minute would also be required. These figures are meant as guides only for the purpose of better understanding the principles involved, but they do approach practical data from a well designed tower.

The evaporation of the water immediately drops the hot air temperature to about 250° F. at which temperature it is exhausted. The finer the particle size, the denser the product and the less puffed it is. Thus, a high superheated slurry tends to decrease viscosity and particle size. This is counterbalanced, up to a point, by the greater tendency of the sprayed particle to lose its water rapidly and become puffed. The greater the pressure, the finer the spray and the greater the density.

The diameter and design of the

spray nozzle itself are important factors and have been discussed to some extent in the January issue. In general, the large particle size will puff before it dries due to the generation of steam within the globule. The smaller size will dry rapidly to a dense particle. The ability of the tower to dry in some measure will be proportionate to the temperature times the volume of the air transferred. At 500° F. and 10,000 cubic feet per minute, an equivalent drying effect could be obtained with air at 450° F. but circulated at 11,100 cubic feet per minute. There are decided limits to this variation, however, since the greater the air velocity, the greater will be the speed of fall and the shorter will be the drying time within the tower. Here again, particle size enters very largely into the engineering design, since small particles fall at a much faster rate than large ones, due to differing air resistance of their surfaces. For example, considering a soap particle as a solid sphere of 1.08 density, the rate of fall through air may be calculated from the Modified Stoke's Law as follows:

Screen Size	Particle Dia. in mm.	Rate of fall, ft. per sec.
30	.59	13
50	.30	3.2
70	.21	1.6
100	.149	.8

The difference in rate of fall between a small and large particle normally found present in a soap powder is 16 times. This very much restricts the leeway provided by a change of air velocity alone and also indicates the necessity for close control of all factors involving particle size such as nozzle pressure, temperature, wear and clogging.

(To be continued next month)

PEA Honors Huberman

Jacob Huberman of Scientific Exterminating Co., Bronx, N. Y., and president of the Professional Exterminators Association, was honored as the "Man of the Year" at the annual dinner of the association, Dec. 15, at the Hotel Embassy, New York. 119 members and guests were present. John K. Medoff, Hudson Exterminating Co., West New York, N. J., re-

gional vice-president of the National Pest Control Association, served as toastmaster and introduced the six speakers, among whom were: J. Edwin Sameth of Western Exterminating Co., Newark, N. J., president of the National Pest Control Assn.; Joseph Weinstein of the New York City Department of Health, Ernest Mills of the U. S. Fish and Wildlife Service, Col. Hardenberg, Rodent Control Coordinator of New York and Messrs. Garvin and Trichter of the New York City Department of Health and assistant commissioner of the department, respectively.

Mrs. Ethel Thorpe, who served as secretary of the association for a number of years, received as a gift a \$100 Savings Bond.

Haag Joins Hyman

Garfield G. Haag, formerly associated with Witco Chemical Co., New York, as assistant traffic manager in Chicago, was appointed recently as plant traffic manager for Julius Hyman & Co., Denver. He is responsible for traffic functions of the chemical and insecticide divisions.

New Folder on "Thanite"

A new folder describing "Thanite" insecticide toxicant for use in space and residual sprays, was issued recently by Hercules Powder Co., Wilmington, Del. The material is a terpene chemical and features quick knockdown. What "Thanite" is and amounts required in various types of sprays are covered in the folder. It is recommended for use in both household and livestock sprays.

McLean New Merck V. P.

Dr. William H. McLean, chairman of the marketing committee, was appointed recently to the new position of vice-president for marketing of Merck & Co., Rahway, N. J. His work at Merck, including being director of commercial development, has been concerned with the development of products, markets and marketing policies and with coordination of sales. He joined Merck in 1948. During World War II he was in charge of research and development, A. Q. M.



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Bath Products

(From Page 49)

Sodium sesquicarbonate .	16.5
Tartaric acid	12.5
Perfume and color.....	1.0

Dehydrate all the ingredients, preferably in a vacuum dryer. Mix the acid and the sesquicarbonate and then incorporate the mixture with the bicarbonate. Add the perfume and color in alcoholic solution.

The composition of effervescent bath tablets is essentially the same as that of the effervescent bath salts or powders; the formulas being modified in order to produce a mixture that will compress effectively. Borax and a little talc is sometimes used, and a higher proportion of starch is generally employed (21). In one report (22) it is stated that an effervescent bath tablet should withstand storage of at least one year without ill effects. When put in water, it should disintegrate in about four minutes, accompanied by a lively bubbling of escaping gas.

A typical formula (3) for making effervescent bath tablets calls for the use of:

	Per Cent
Sodium sesquicarbonate ..	41.0
Sodium bicarbonate	31.0
Tartaric acid	12.0
Starch	11.0
Perfume and color.....	5.0

Dry all the ingredients thoroughly. Mix and add the perfume. Compress and spray the color on the finished tablets.

Occasionally, variations of standard effervescent products are suggested in patents. In one such set of specifications, (23) amidosulfonic acid and sodium carbonate are mixed thoroughly and pressed into any desired shape or left as a powder. In another case, (24) the active ingredients are melted with Glauber's salt and cast into tablet form or ground into a powder. The Glauber's salt, being rather poorly soluble, regulates the rate of solution and the speed of carbon dioxide formation. In a more recent instance, (25) foam is produced by the chemical reaction between aluminum sulfate and sodium bicarbonate; an illustrative formula containing these ingredients plus alum-

inum oxide, in fine powder, and saponin.

As a matter of fact, saponin finds useful application as an adjunct in effervescent bath salts. As was pointed out by Tyler, (26) the foaming efficiency of the ordinary effervescent mixture is rather low, so it is sometimes increased by the incorporation of a strong foam-producing agent like saponin. This material works effectively in either acid or alkaline solution and it is not affected by lime. As is indicated in the following formula (27) for a foaming bath powder, only a small proportion is needed:

	Parts
Sodium bicarbonate	100
Tartaric acid	80
Starch	20
Saponin	3
Perfume and color.....	sufficient

Harry (4) issues a word of caution with respect to the use of saponins. Since they can cause hemolysis of the blood, the compounds should be used in very low concentration and it is wisest, he feels, to avoid it entirely if the skin is broken. He concedes, however, that he is unaware of their having produced any untoward symptoms.

Foaming Bath Products

BECAUSE saponin is used with various other agents in foaming bath formulations, its employment can serve to illustrate the development of such items. Thus a powder, which combines several foam-forming mechanisms, including that of a lathering soap, may be made from: (3)

	Per Cent
Saponin	3.0
Starch	10.0
Sodium bicarbonate	20.0
Tartaric acid	10.0
Powdered soap flakes.....	41.0
Borax	15.0
Perfume	1.0

Although it is said that soap itself can be used to make a bubbling bath if it has the proper characteristics, Valance (28) believes that it should not be used in making foam bath preparations. Pertinent is Tyler's (26) observation that, on the whole, soap-based bubbling baths have not been too successful.

Much simpler than the foregoing, but representing a major for-

ward step is a foam bath powder (3) consisting of:

	Per Cent
Saponin	15.0
Sodium lauryl sulfate.....	82.0
Perfume	3.0

This naturally leads into a consideration of the role played by surface active agents or foaming synthetic detergents in the production of modern bubbling bath preparations. Before proceeding, however, it might be well to discuss briefly the requirements of these bath preparations and to try to account for their growing popularity.

With respect to requirements, Maicki (29) has suggested that a foam bath product should embody the following features: (a) readily produce a rich, lasting foam, (b) have water-softening properties, (c) have some detergent value, (d) prevent "bath tub ring," and (e) have a suitable color and perfume. The public's acceptance of these products, perhaps influenced by movie scenes and magazine pictures, is based on the abundant, dense, gleaming foam that fills the bath tub. In addition to their detergent action, says Harry (4) they provide a definite psychological effect. The warmth, fragrance and softness of the foam induce a feeling of relaxation and contentment.

Certain modern synthetic foaming agents most closely meet these requirements and produce the desired effects. In his significant report on foam bath bases, Molteni (30) states that various of the new synthetics have been selected as the basic ingredients for bubbling bath preparations because of their superior foaming power, greater stability in hard water, and their ability to disperse heavy metal soaps, thereby preventing undesirable ring formations on the bath tub. Another advantage is the ease with which they can be perfumed.

At this point it should be noted that even though this part of the discussion on bath preparations is devoted to dry type products, the data cited so far with respect to synthetic foaming agents applies equally to liquid materials.

Returning to Molteni's report, this investigator notes that the basic

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ingredient or foaming agent present in most bubbling bath preparations is generally one of the following types: (a) fatty acid-alkylamine condensate, (b) alkyl aryl polyether, (c) fatty alcohol sulfate, and (d) alkyl aryl sulfonate. Although not limited to such products, the first two types are best suited for making liquid preparations. The last two types are more appropriate to the manufacture of bath powders. In the pure state, they are usually available as solids and can easily be mixed with other dry ingredients.

Of course, a number of products for making foaming bath powders are available under various trade names. Considerable detailed information on the properties of such agents is given in manufacturers' literature. It is quite noteworthy that the value of these compounds for making bath preparations is stressed in such publications.

The method of producing a heavy froth with a bath preparation based on these synthetics is quite simple. A small amount of the product is placed in the tub and a strong stream of moderately hot water is allowed to play on it. The mechanical action of the falling water beats up an abundance of foam which forms as a result of the lowered surface tension of the water.

Of course, one could go into a detailed discussion on how and why foaming takes place. Practical considerations are more important, however, and a good deal of practical data were obtained by Molteni (30). He observed, for example, that the two liquid types of synthetic foamers show little or no change in sudsing power in either hard or distilled water. In contrast the dry types (fatty alcohol sulfate and alkyl aryl sulfonate) showed a marked decrease in sudsing power in hard water.

He also studied the effect of soap on the stability of the foam produced by the synthetics. It has been stated (4, 7, 31) frequently that a major failing of most of these compounds is the tendency for the foam to break up when the bather starts using soap. Molteni found, however, that this foam collapse did not occur

in soft water with the general types of synthetics that he had investigated. This, he explained, is due to the fact that they are all of the anionic or non-ionic type and, as such, the addition of further quantities of anionic soap produces an additive effect on the sudsing power. Unfortunately, an opposite effect is encountered in hard water. The addition of increasing quantities of soap to a constant concentration of foaming agent in water of 400 ppm hardness caused a proportional decrease in foaming power.

Foam Builders

VARIOUS adjuncts are employed to overcome these failings. In line with the recommendations of other authorities, (3) Molteni found that the sudsing properties of the synthetic foamers can be supplemented by the use of various builders. In general, the usual phosphates, pyrophosphates and poly phosphates, and even neutral chlorides and sulfates show advantageous effects on foaming power. He pointed out that the correct type and amount of builder can be determined readily by simple tests. He also noted that, although the addition of tetrasodium pyrophosphate to hard water does not enhance the foaming power of the alkyl aryl sulfonate upon the addition of soap, the other three types of synthetics showed remarkable improvement against the effect of soap on the addition of this compound. In brief, the sudsing power of the synthetic foaming agents can be supplemented by the addition of various builders and neutral salts which at the same time help to counteract the deleterious effects of hard water and soap. This applies, of course, to both dry and liquid preparations based on these synthetics.

Various other adjuncts are included in foaming bath powders in order to provide certain desirable effects. Aside from the use of phosphates, various carbonates may be added as water-softening agents. Sodium sesquicarbonate is described (10) as "ideal" for this purpose. If desired, sodium bicarbonate and an acid ingredient may be incorporated with the synthetic materials to aid in the foam production (26).

To increase the rigidity and stability of the bubbles, Harry (4) recommends the use of a special grade of saponin. Sometimes powdered gums, like acacia or tragacanth, are employed to help produce a thick, uniform stable foam (32). Starch is also used.

As already indicated, synthetic-based products lend themselves rather readily to perfuming. Compounds suitable for such purposes are available from many essential oil firms. With respect to color, Gibson (33) advises care in selection and blending. Only certified colors should be used and close control should be exercised to obtain uniform results. Alcohol is preferred for dispersing the color.

Obviously a great number of variations are possible in the compounding of foam bath powders. Such products can be made quite easily by mixing a suitable proportion of the softening agent with a builder, such as one of the phosphates or sodium sesquicarbonate, in a tumbling barrel and then perfuming and coloring as desired. A further modification to make a popular type product, one that yields a more stable type of foam and has additional value as a water softener is as follows: (32)

	Per Cent
Sodium lauryl sulfate.....	40.0
Sodium carbonate (dried and powdered)	55.0
Saponin	5.0

In his discussion on surface active agents, James (34) offers the following as a typical formula for making a foam bath powder:

	Parts
Sulfated fatty alcohol, sodium salt	60
Soluble starch	8
Borax	20
Sodium metaphosphate	10

The compound may be perfumed and tinted as required. James notes that sodium dodecyl (lauryl) sulfate gives the maximum foam.

Of kindred interest is a patented process (35) for making bath granules with foaming properties. In one example, a suitably tinted and perfumed product is based on:

	Per Cent
Starch	80.0
Sodium sesquicarbonate ..	10.0
Sodium lauryl sulfate.....	10.0

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product consisting of: (3)

	Per Cent
Sodium bicarbonate	30.0
Tartaric acid	17.0
Borax	5.0
Sodium lauryl sulfate.....	47.0
Perfume	1.0

Milk, which has had a long history of usefulness in baths, may also be employed in compounding foam bath powders. Sedgwick (36) has discussed the types of milk powders suitable for such purposes. More recently, Tyler (26) noted that milk itself has a tendency to foam and to sustain foam, thereby serving to promote this desired property. Illustrating its use is a product made from:

	Parts
Sodium lauryl sulfate.....	50
Sodium sesquicarbonate ...	37
Milk powder	10
Pine needle oil.....	3

Special Bath Salts

BEFORE going into a discussion of liquid bath preparations, brief consideration should be given to a few rather special bath salt products. Oxygenated bath salts, for example, still find some demand. Although other materials can be used, (6,37) sodium perborate usually forms the basis of such products. It can be mixed with sodium sesquicarbonate and other suitable agents (7). One interesting combination for making oxygenated baths consists of: (3)

	Per Cent
Sodium sesquicarbonate ..	60.0
Sodium bicarbonate	30.0
Sodium perborate	9.0
Perfume and color.....	1.0

Magnesium sulfate or Epsom salt forms the base of a number of old-fashioned bath preparations. By itself it has long been a favorite addition to hot baths, especially where it is desired to relieve sore, aching muscles. No doubt its attractiveness could be greatly enhanced by the addition of a suitable perfume. A wintergreen-like odor would probably be very appropriate because of its association with ache-relieving preparations.

Magnesium sulfate also forms the main constituent of so-called reducing bath salts which are popular abroad (13,28). Whatever may be their actual worth, a British source (38) provides the following formula for "slimming" bath salts:

	Parts
Magnesium sulfate	70

Sodium sulfate	20
Sodium hexametaphosphate	10

Mixtures of magnesium sulfate and sodium chloride form the base of many of the sea bath salts which were so popular in the past. Frequently tinted a green color, such a product may be made from (39):

	Parts
Potassium bromide	1
Potassium iodide	1
Potassium sulfate	25
Calcium chloride	100
Magnesium sulfate, dried	1,000
Crude salt	4,000

It hardly needs to be pointed out that soap is not compatible with such mixtures. The presence of magnesium sulfate in the bath water will, of course, precipitate insoluble magnesium soap.

(To be concluded)

To Stop Cleaner Claims

A stipulation in which Goulard & Olena, Inc., Skillman, N. J., has agreed to stop claiming that the cleaning preparation "Rid-o-Spot" is less inflammable, less explosive and safer to use than other cleaning solutions containing substantially the same quantities of carbon tetrachloride and petroleum distillates, was approved recently by the Federal Trade Commission.

The company further agrees to stop claiming that: the product cleans and does not leave a ring around the place to which it is applied on spots or stains caused by perspiration or insoluble aqueous staining medium on bleached cotton fabrics, unbleached woolen cloth and dyed silk fabrics; does not injure the color of fabrics when they are colored with dyes which bleed in carbon tetrachloride and petroleum distillates; cleans white buckskin or white buckskin shoes; differs from other cleaning preparations containing substantial quantities of carbon tetrachloride and petroleum distillates.

New Lever Plant

(From Page 90)

cated in key industrial centers across the country.

The present Lever plant in St. Louis at Third and Convent Streets will continue in operation until the

new "Surf" unit is completed. Its present St. Louis plant was acquired by Lever Brothers in 1939 from the Hecker Products Co., along with a plant in Baltimore. The plant was occupied in 1883 by the N. K. Fairbank Co., founded in 1867, which was famous as a pioneer producer of powdered soaps, including "Gold Dust," made in 1886.

Lever still makes "Gold Dust" at this plant as well as "Gold Dust" scouring cleanser and "Silver Dust," a Lever-improved granulated soap with widespread and growing popularity. During World War II the plant made thousands of tons of G. I.-type soap and large quantities of glycerine.

The other Lever plants making soap, soap powders, shortening and margarine, dentifrices and cosmetics are located in Hammond, Ind.; Cambridge, Mass.; Edgewater, N. J.; Baltimore; Chicago and Long Island City, N. Y. A new plant in Los Angeles, California, is nearing completion.

Soap Advertising

(From Page 40)

ceptions when soap has assumed a leading role in the activities of the Commission have been when it utilized such methods and drew down upon it as here, the unqualified condemnation of the Federal Trade Commission and the courts.

In upholding the order of the Commission against these advertising misrepresentations in the marketing of "Mazon" the Federal Court said, "The seriousness of the problem of false advertising, both sociologically and financially, requires no demonstration. The toll which is assessed upon the consumer runs into millions; the effect upon the health and well being of the community is incapable of estimation."

* * * * *

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3. Allen B. Wrisley Co. v. F.T.C., 113 Fed. 2d 437
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SOAP and Sanitary Chemicals

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ASTM Wax Comm. Meets

Committee D-21 on wax polishes and related materials of the American Society for Testing Materials, Philadelphia, will meet in Chicago and Racine, Wis., May 2 and 3. The meeting is being held following that of the Chemical Specialties Manufacturers Association which is holding its 37th midyear meeting at the Drake Hotel, Chicago, Monday and Tuesday, April 30 and May 1.

New Powell Research Unit

The opening of new and expanded laboratory facilities at Port Jefferson, Long Island, N. Y., for chemical and entomological research work connected with the production and use of insecticides, rodenticides, etc., was announced recently by John Powell & Co., New York. The new and modern facilities will handle all control, investigational and research work with the exception of spot control at Powell manufacturing plants in Brooklyn, and Huntsville, Ala.

Dr. Robert C. Haring, formerly manager of Powell's Brooklyn plant, has been appointed to direct the activities of the new Port Jefferson research center.

The building site for the new insecticide research center is near to New York City, yet lies in the heart of the Long Island agricultural area

The new center will provide 10,000 square feet of floor space,—sufficient for several research projects to be car-



ROBERT C. HARING

ried on simultaneously. In addition there are eight acres of land for special work on agricultural insecticides and herbicides. Ample space is available also for erection of greenhouse facilities.

New USI Insecticide Plant

A new plant, its second, for the production of pyrenone insecticides was leased recently in Kansas City by U. S. Industrial Chemicals, Inc., New York. The plant, which will have a 2,500,000 pound per month capacity, is to be situated in the four-story building at 300 S. Third St. It will provide a floor area

New research laboratories of John Powell & Co., New York, at Port Jefferson, Long Island, N. Y., where all control, investigational and research work is to be carried out. Site is of eight acres.



of 40,000 square feet. U. S. I. also manufactures pyrenone grain protectants at its plant in Baltimore, Md. Mueller & Co., Kansas City, Kans., will serve as contractors and plant operators at the Kansas City works.

New Tetco Aerosol Products

Tetco Co., division of Industrial Management Corp., Los Angeles, recently announced a new aerosol product, "Cold-ReLeef," a room spray composed of ephedrine, menthol, peppermint, eucalyptus and chlorobutanol. The six-ounce aerosol bomb is priced at \$1.49. Tetco also plans to introduce a new home deodorant under the trade name, "Odor-Blitz" within the next few weeks.

George H. Lincks Dies

George H. Lincks, 79, for over 50 years in the business of importing natural resins and waxes, on which he was an expert, died at his home in Maplewood, N. J., Jan. 11. He was president of the Brooklyn company bearing his name from 1921 until 1946. Although he had been in retirement for the past five years, he acted as a consultant to the gum industry during that time. Mr. Lincks is survived by his wife, Mrs. Susan Hunt Lincks; a son, G. Fred Lincks, and a daughter, Miss Grace Ruth Lincks.

Mosquito Meeting Mar. 6-8

The annual conference of the American Mosquito Control Association will be held at the Drake Hotel, Chicago, Tuesday, Wednesday and Thursday, Mar. 6-8, it was announced recently by the Illinois Mosquito Control Assn., host for the 1951 conference. Lester W. Smith of Metuchen, N. J., is president of the American Mosquito Control Assn. Entomologists and sanitary engineers from all sections of the U. S., and Mexico, Asia, Canada, the West Indies and Central and South America are on the program. Purpose of the conference, which will be participated in by representatives of the Army, Navy, U. S. Public Health Service and the U. S. Department of Agriculture, is to discuss new methods of mosquito control.

Cuts Aerosol Prices

Price reductions on the leading items in its line of household products for 1951 were announced recently by the Aer*a*sol division of Bridgeport Brass Co., Bridgeport, Conn. The company's low pressure aerosol insecticide has been reduced from \$1.89 to \$1.59, while the Aer*a*sol roach and ant killer has been cut to \$1.59.

At the same time, Bridgeport announced a new 12-ounce "Bug Bomb" insecticide to retail for \$1.09. The new aerosol insecticide is expected to reach that portion of the market not reached by the insecticide selling for \$1.59. To support the new and established Aer*a*sol items, an intensive advertising program has been planned for 1951. Insertions in *Life*, *Better Homes and Gardens*, *Ladies Home Journal*, *Good Housekeeping*, and Sunday newspaper magazine supplements, will be used. Point-of-sale material and other sales aids will complete the program.

Diversey Sales Conference

Sales problems in today's transitional economy from one of peace to all-out preparedness were discussed at the 18th annual general sales conference of Diversey Corp., Chicago, held recently at the Edgewater Beach Hotel, Chicago. Three hundred Diversey representatives from the United States and Canada, including field service engineers, divisional and district managers and senior salesmen, were gathered for a five-day sales and technical review, presented by top management sales and technical executives. New products were introduced, new sales and service techniques examined and analyzed for effectiveness.

Among new products introduced at the conference were a dish-washing compound for institutional users and an improved milkstone remover for the dairy industry.

New sales literature and technical bulletins were given to the men to aid in selling.

H. W. Kochs, chairman of Diversey Corp., opened the conference with a review of the sales year 1950, which he termed, "The best in Diversey's history." He outlined the sales



Arthur H. (Red) Motley, president of Parade Publications (second from left), shakes hands with H. W. Kochs, chairman of Diversey Corp., Chicago, following his address before 300 Diversey field service representatives attending the corporation's 18th annual sales conference, held recently in Chicago. Others in the picture are W. E. Noyes, vice-president in charge of sales (extreme left), and L. A. Armstrong, Diversey's convention manager.

objectives of 1951, and gave the closing address of the conference.

W. E. Noyes, vice-president in charge of sales, was in charge of planning for the conference and presided at all sessions for representatives who sell Diversey products to the food industries. Simultaneous sessions were held for representatives of maintenance products and metal industries departments. J. P. Molis is manager of the former and R. L. Shannon head of the latter. L. Shere is president of Diversey.

Winthrop-Stearns Strike

An unauthorized strike of a week's duration ended Jan. 11, at the Rensselaer, N. Y. plant of Winthrop-Stearns, Inc., when a spokesman said the company had agreed to explore the wage question. About 500 employees walked out on Jan. 4, to enforce a demand for a cost-of-living pay increase of 15 cents an hour. The plant employs about 1,000 persons.

Elect Sulzberger, Lawson

The election of Frank L. Sulzberger, former president as chairman of the board and John Harry Lawson, previously executive vice-president as president of Enterprise Paint Manufacturing Co., of which Federal Varnish is a division, was effected at a recent meeting of the board of directors. Mr. Sulzberger, identified with the paint business for more than 45 years, succeeded to the presidency of Enterprise upon the death of his father, founder of the company. The

new chairman was formerly president of the National Paint, Varnish and Lacquer Assn., of which he is presently a director.

Mr. Lawson has been associated with the floor finishes, paint and varnish industries for 30 years. Upon his graduation from law school, he entered the employ of Federal Varnish Co., of which his father was president. He succeeded his father as head of the company, and upon its consolidation with Enterprise Paint Manufacturing Co. in 1926 became an officer of that firm. Federal Varnish manufactures floor finishes, waxes, polishes and floor sealers, which it sells to the sanitary supply distributing trade.

Lehn & Fink Earnings Up

Lehn & Fink Products Corp., Bloomfield, N. J., more than doubled its earnings in the six months to Dec. 31, 1950, as compared with the comparable period a year earlier, it was reported recently. The company showed a net profit of \$516,184, or \$1.29 a share for the six months to Dec. 31, last, as against \$247,011, or 61 cents for the 1949 period.

Columbia Builds BHC Plant

A new plant for the production of benzene hexachloride is now under construction at Natrium W. Va., is was announced recently by the Columbia Chemical Division of Pittsburgh Plate Glass Co., Pittsburgh, Pa. The plant is expected to be completed during March or April of this year.

Sanitary Chemicals Sales Rising Maintenance Show Reports

SUPPLIERS of sanitary chemicals and sanitation equipment were enthusiastic about the future when interviewed at the Second Plant Maintenance Show held in Cleveland (O.) Public Auditorium, January 15-18. Accelerated rearmament work in the U. S. is increasing the demand for better sanitation, they said, because plant management realizes clean equipment lasts longer, produces more efficiently.

To cite an example, J. H. Banta, technical service representative for Oakite Products, Inc., New York said that prior to 1939 very little sanitation was practiced in West Virginia. Since the beginning of World War II up to the present time, there has been a 500 per cent increase in the use of cleansers and sanitation equipment in that state alone, he said.

John Griffith, Cleveland representative for West Disinfecting Co., Long Island City, N. Y., pointed out that defense orders increase the number of shifts established plants will operate and is the direct cause for hundreds of new businesses mushrooming up to take care of war work. More available dollars resulting from government spending, too, will enable management to provide the sanitary

conditions hard-to-get labor will demand. West Disinfecting, Griffith said, has already begun to realize additional business and he attributes it primarily to the reasons given.

Of the 170 exhibitors at the four-day conference and show visited by an estimated 10,500 plant supervisors and maintenance men, four manufacturers of sanitary chemicals displayed their products.

Powdered "Germa-Medica," a hand-soap containing "G-11," was featured at the booth of Huntington Laboratories, Inc., Huntington, Ind. Other Huntington products including liquid soaps, "finishing removers," self-polishing floor wax, roach spray, soap dispensers, electric hand-drying machines, floor polishing and vacuum cleaning equipment and their "A.D. Flameproofers" for fabrics were exhibited. Hy Goldenberg, factory sales manager, was on hand to answer technical questions along with Clare G. Bristol, district manager; DeVaughn Clark, Detroit salesman; Gene Tunison and John Weiser, salesmen from Wooster, O., William Cerney and Frank Fisher, representatives from Indiana and Pennsylvania, respectively.

Sugar Beet Products Co., Saginaw, Mich., had its factory representa-

tives, Len Reyner, Ken Zehnder, and Grant Rafferty tell visiting delegates about the new "SBS-50" general-purpose cleaner-sanitizer. Also shown were "SBS-11, -15," and "-20 Heavy Skin Cleansers" available in coarse to fine granules, "SBS-30" waterless cleaner and a complete line of "SBS" soap dispensers. Lauren Lee, company sales manager was in charge of the booth.

A solution-lifting steam cleaning gun with a siphon head was shown at the exhibit of Oakite Products, Inc. of New York. Division manager, Fred Bruening, said the gun is ideally suited for plant maintenance. Showing the 80-some other Oakite chemicals for plant cleaning operations, were technical service representatives: J. H. Banta from Toledo, O.; R. B. Potter of Erie, Pa.; R. B. Lose, Zainesville, O., and M. R. Stevens from the Cleveland office.

William Flatow, sales manager for the West Disinfecting Co. of Long Island City, N. Y. was at the show to assist the company's Cleveland men in their booth. West's "Lan-O-Kleen" powdered hand cleaner, "Westone" dustless sweeping compound, deodorants, disinfectants, insecticides, sprayers and a full line of other sanitary supplies, chemicals and equipment were on display. E. H. Frawley, district manager, and Kurt Rogosch, assistant district sales manager, headed the Cleveland group which also included salesmen John Griffith, Jerry Cole, Robert Welty and Clem Wagner.

Two of the 44 talks given during the conference dealt directly with the problem of plant sanitation, although the subject was often referred to by other speakers as being a vital part of a sound maintenance program.

"Our cost per 1000 square feet per week averages approximately \$2.00," G. L. Doty, superintendent of plant sanitation, U. S. Rubber Co., Detroit, revealed in his talk on "Maintaining Proper Standards of Sanitation." There are 3,776,187 square feet of floor space to keep clean in their Detroit plant, he said, and the task is accomplished with a janitor force of 113 people and 23 machine cleaners.

Speaking primarily on the way

The discussion panel on housekeeping was participated in by (left to right): W. H. Peter, Jr., chairman, Electric Controller & Manufacturing Co., Cleveland; A. D. Buschmann, Perfection Stove Co., Cleveland, (Painting and Decorating); Eugene F. Mumaw, superintendent of plant services, Rouge Plant, Ford Motor Co., Dearborn Mich., (Selection and Upkeep of Floors); Glen L. Doty, superintendent of plant sanitation, U. S. Rubber Co., Detroit, (Maintaining Proper Standards of Sanitation).



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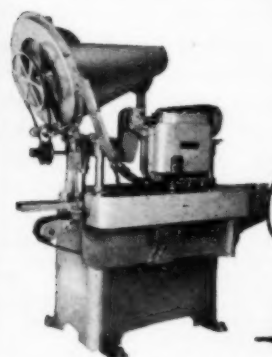
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his sanitation department is organized, Mr. Doty attributed their low rate of cleaning cost to the efficient use of modern equipment, chemicals and personnel.

Trisodium phosphate is the main cleaning agent used in the Detroit plant, and even though "we have used various cleaning agents, in general, trisodium has proven best," he advised the group. Modern insecticides and a small compressor with a fog spray are used by the sanitation crew to minimize the insect problem.

E. F. Mumaw, superintendent of plant services, Rouge Plant, Ford Motor Co., Dearborn, Mich., spoke to the conference on the "Selection and Upkeep of Floors." To emphasize the importance of proper floor cleaning, he pointed out, "Industrial waste allowed to accumulate on the floor will soon become a hazard to foot traffic and if not cleaned at regular intervals will hasten the disintegration of the floor." No recommendations as to cleaning compounds were given.

In order to serve the eastern industrial area, next year's Plant Maintenance Show and Conference will be held at Convention Hall in Philadelphia, January 16-19, 1952.

PCO's Honor Kavanagh

Daniel Kavanagh, president and business manager of the Exterminators and Fumigators Union, Local 155, A.F.L., was honored at the annual dinner of the Pest Control Division of the Federation of Jewish Philanthropies, Jan. 18, at the Savoy Plaza Hotel, New York. He was honored for "his devotion and service to the community". The dinner honoring him was to have been a high point in the group's industry-wide drive in support of the Federation's current \$20,000,000 campaign fund. The Honorable Herman T. Stichman, Commissioner of Housing of the State of New York, was to have been the guest speaker. Col. Leopold Philipp, Disinfecting and Exterminating Corp. of America was to describe the Federation's activities and needs.

Co-chairman of the division's Federation drive are Justin Simon,



The pest control industry added its support to the current \$20,000,000 maintenance campaign of the Federation of Jewish Philanthropies with the division's annual dinner on January 18th at the Savoy Plaza Hotel.

Leaders on the dais at the dinner included, left to right, Charles Pomerantz, Bell Exterminating Co.; Harry Raybin, chairman of the Fumigant Board of the Department of Health; Hon. Jerome Trichter, assistant commissioner of the Board of Health; State Commissioner of Housing Herman T. Stichman, who was the main speaker; Jacques J. Hess, Exterminating Service, chairman of the division's Federation drive; Daniel Kavanagh, president and business manager, Exterminators and Fumigators Union, Local 155, A.F.L., who was the guest of honor; Justin Simon, General Exterminating Service, and Col. Leopold Philipp, Disinfecting and Exterminating Corp., one of the featured speakers.

General Exterminating Corp., and J. L. Huberman, Scientific Exterminating Co.

Other members participating include: William O. Buettner, secretary of the National Pest Control Assn.; William Farrell, Effective Exterminating Co.; Alex Feuerstein, Standard Exterminating Co.; Joseph Finneman, Pest Control Corp., and Nathan Fremed, Sameth Exterminating Co.

New Maintenance Chart

A new "Maintenance Checking Chart" was published recently by United Laboratories, Inc., Cleveland. The complete chart lists many common building maintenance problems and recommends solutions for each. Over 100 products and processes for the maintenance of floors, roofs, interior and exterior walls, waterproofing, special paints, etc. are listed in the chart. Copies are available free on request from United Laboratories, Inc., 16801 Euclid Avenue, Cleveland 12, O.

Reilly Synthetic Carbazole

Synthetic carbazole ($C_{12}H_9N$), uses for which include the inhibiting of rancid odors in synthetic detergents, is now available in commercial quantities from Reilly Tar & Chemical Corp., Indianapolis, Ind. The recent activation of a newly-perfected process developed by the company's research and development division, has resulted in the synthetic.

According to Dr. F. E. Cislak,

director of research for Reilly, the new process frees industry from uncertain reliance upon the production of carbazole from the usual coal tar method. Adequate supplies of this raw material now are assured. Newer uses for the material also include its nitration and halogenation to make insecticides.

The new synthetic has a molecular weight of 167 and a purity of .97 percent minimum. It boils at approximately $353.5^{\circ}C$, and its melting point is $245^{\circ}C$. (initial) minimum. The Reilly product is insoluble in water, slightly soluble in alcohols and aromatic hydrocarbons and very soluble in pyridine bases.

Joins Dreyer Reps.

Robert S. Bogatin has joined the staff of its Philadelphia representative, R. Peltz Co., it was announced recently by P. R. Dreyer, Inc., New York. Mr. Bogatin attended the Drexel Institute of Technology and the University of Pennsylvania.

McCormick on Bank Board

Charles P. McCormick, president and chairman of the board of McCormick & Co., Baltimore, recently was redesignated chairman of the board of the Federal Reserve Bank of Richmond and Federal Reserve Agent for 1951. He was also reappointed as a director of the Richmond Reserve Bank for a three year term expiring Dec. 31, 1953. This is the third consecutive year he has been named to head the bank's board.



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David C. Mervis Dies

David C. Mervis, 50, retired president of Cleaning Materials Co., Pittsburgh, died recently at his home in Oakland, Pa. A graduate of Brad-dock High School, he was well known in athletic circles. He leaves two brothers, Irwin J. and Wilbur W. Mervis and one sister, Mrs. Harry T. Fineberg.

Gottshall, Fogg Assistant

The appointment of Ralph K. Gottshall, assistant general manager of explosives department, as assistant to the president of Atlas Powder Co., Wilmington, Del., was announced recently by Isaac Fogg, president. A graduate of Lafayette College, Mr. Gottshall started with Atlas as a chemist in 1927 at the company's plant near Joplin, Mo.

MGK Allethrin Expansion

McLaughlin Gormley King Co., Minneapolis, recently announced that they have arranged for allethrin production equivalent to two million pounds of pyrethrum. This is about one fourth of the total average annual pyrethrum imports during recent post-war years, the company states. Its present expansion plans include facilities to produce a substantial portion of the anticipated military and civilian needs. McLaughlin Gormley King announced their expansion program following official approval of allethrin for civilian use in aerosol products by the U. S. Department of Agriculture. The material has also been approved as a replacement for pyrethrins for army use.

Salesmen Induct Hiller

Paul W. Hiller of Innis, Speiden & Co., New York, was inducted as the president of the Salesmen's Association of the American Chemical Industry, at a luncheon at the Hotel Roosevelt, New York, Jan. 25.

In discussing plans for the organization for the coming year, Mr. Hiller revealed that the association was considering the possibility of an award or scroll for the man doing the most for the group. He also indicated there might be joint meetings of the Chemical Salesmen's Assn., the Commercial

Chemical Development Assn. and the Chemical Marketing Research and Development Assn.



PAUL W. HILLER

Other officers inducted at the luncheon were: vice-president, Edward J. Bush, Bush Aromatic Chemical Div., Dow Chemical Co.; treasurer, Robert J. Milano, Millmaster Chemical Co., and secretary, Warren F. Schumacher, J. T. Baker Chemical Co.

Pinney Joins Tamms

Herbert A. Pinney, formerly manager of sales and assistant to the vice-president of American Can Company's central division, recently joined Tamms Industries, Inc., Chicago. He heads the newly created sales promotion department. Mr. Pinney is a past president of the Chicago Paint, Varnish and Lacquer Association.

Make Synergist in Britain

Cooper McDougall & Robertson, Ltd., British insecticide firm, is now producing piperonyl butoxide under license of U. S. Industrial Chemicals, Inc., New York, it was announced recently. The material is said to be highly synergistic with natural pyrethrum, the mixture of the compounds being more potent as an insecticide than either of the chemicals used separately.

The English concern has formed Pressure Aerosols Filling Co., Ltd., Berkhamsted, Herts, England, as a subsidiary to act as distributor of piperonyl butoxide and its combinations to other insecticide manufacturers in its area of operations.

A-1 Supply in New Quarters

A-1 Supply Co., wholesale distributor of janitor supplies in Dallas and surrounding territory, recently moved into new quarters at 1335 Levee St., in the Trinity Industrial District. George Theriot is the owner of the firm.

W. T. Rawleigh Dies

W. T. Rawleigh, 80, founder and president of W. T. Rawleigh Co., Freeport, Ill., manufacturers and distributors of household products, died Jan. 23, after a long illness. At 18 he began selling household products and bottled medicines throughout Stephenson County, Ill. He incorporated his company in 1895 and remained as its head throughout his lifetime.

Pesticide Act Seizures

The first published Notices of Judgment under the Federal Insecticide, Fungicide and Rodenticide Act covering 25 seizures were issued recently by the Production and Marketing Administration of the United States Department of Agriculture. Of the 25 seizures of insecticides, disinfectants and rodenticides, 24 were seized because the products had not been registered. The other seizure was for misbranding of a rodenticide.

N. E. PCO's Elect Maguire

Edward J. Maguire of Maguire Co., Haverhill, Mass., was elected president of the New England Pest Control Association at the group's annual meeting at the Lenox Hotel, Boston, Dec. 13. Other new officers elected at the meeting include: vice-president, Wilfred J. Mongeau, Pied Piper Co., Farnumsville, Mass.; secretary, Leonard Y. Goldman, New England Pest Control Co., Providence, R. I.; and treasurer, Bartlett W. Eldredge, Waltham Chemical Co., Waltham, Mass.

Miss Bodil Jorgenson spoke on the subject of "Life in Greenland" at the meeting, to which members of the Women's 1951 Convention Program Committee were invited. Attendance at the meeting was 43.

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Form Aerosol War Group

Formation of an aerosol industry war emergency committee, composed of members of the Aerosol Division of the Chemical Specialties Manufacturers Assn. took place at a meeting at the Hotel Biltmore, New York, Jan. 22. The committee is authorized to represent the industry in such matters as conferring with officials of the National Production Authority on possible regulations. It was further agreed that the committee would co-operate with similar groups from other divisions of the Chemical Specialties Manufacturers Assn. on these problems.

As presently constituted, the group has nine filler members and advisory participants from among the suppliers.

Similar committees of the four other divisions of the association were to be appointed prior to a group meeting of the five committees in New York, Feb. 8.

H. E. Peterson of Continental Filling Corp., Danville, Ill., chairman of the Aerosol Division of the Chemical Specialties Manufacturers Assn., presided at the Jan. 22 meeting.

N. E. Chemical Club Meets

Hal Clancy, reporter of the *Boston Traveler*, who covered the fighting in Korea, spoke at the first meeting in 1951 of the Chemical Club of New England, held Jan. 29, at the Parker House, Boston.

Egypt May Build DDT Plant

The Egyptian government is reported to have under consideration a new plan for the construction of a DDT plant in Egypt. Plans call for the construction of a plant with private capital, without government participation, but with a government guarantee to purchase the output for the next five years at prices 15 to 25 per cent higher, if necessary, than prices of the imported product.

Triangle Shifts Muskcat

Walter P. Muskcat, formerly district manager of the Central Middle Atlantic States territory, recently was placed in charge of sales and service scheduling of the new eastern sales

office at 50 Church St., New York, of Triangle Package Machinery Co., Chicago. He is a native of Chicago, fin-



WALTER P. MUSKAT

ished school at the University of Illinois, and now lives in New Jersey.

New Geigy Coast Branch

A new branch in Fresno, Calif., is to be opened shortly by Geigy Co., New York insecticide producing firm, it was announced recently.

Agree on Controls

Agreement on the division of authority over the production and distribution of petroleum chemicals, including insecticides, and oils used in special waxes, polishes and detergents, was reached recently by the National Production Authority and the Petroleum Administration for Defense. NPA has authority over distribution of the chemicals listed above, including benzene, while PAD continues to be responsible for the production of these items. NPA has authority over production and distribution of ammonia, among other chemicals, under the new agreement.

New air conditioned home of Bell Chemical Co. at 2704 S. Ervay St., Dallas, Tex. Plant has 5,000 square feet of floor space with 600 square feet of space for offices. Site has railroad siding and 40 foot loading dock with 60 foot driveway.



D. C. Alexander is Dead

D. C. Alexander, vice-president of J. R. Watkins Co., Winona, Minn., died Jan. 25. Before joining the Watkins company he was with Wright Aeronautical Co., where he was an engineer. He was a brother-in-law of E. L. King, late head of the company.

Woodrow Peck Married

Lawrence Woodrow Peck, associated with Peck's Products Co., St. Louis, and youngest son of G. P. Peck, founder of the business, was married on January 12 to Miss Patricia Elizabeth Scott at the Southampton Presbyterian Church, St. Louis. The bride is the daughter of Mr. and Mrs. John Patrick Scott of St. Louis.

New Dry Aerosol Bomb

A dry aerosol bomb, designated "Dispercide", was announced recently by Yosemite Chemical Co., San Francisco. The dispersant is a combination of powdered chemicals which, when activated, combine to form a fog that expels the contained insecticides (DDT 20 percent, chlordane 5 percent) into space under pressure. The molecules of DDT and chlordane are said to unite in space into crystals of increasing size and finally settle as an even, invisible residual film on all exposed surfaces. At the same time, they penetrate cracks and crevices, in which they are insecticidally effective. "Dispercide" crystals are said not to flatten out, not soak into wood or fabric. They project upward and out, making it difficult for insects to avoid contact with them. As a residual "Dispercide" is claimed to be effective for 30 days or more. It requires about 10 seconds to generate a "Dispercide" bomb.

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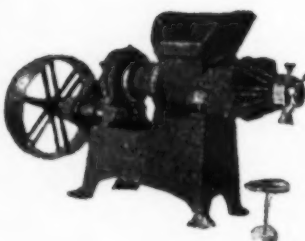
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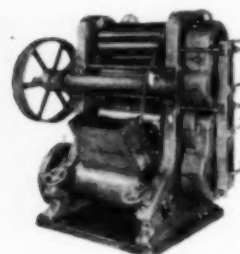
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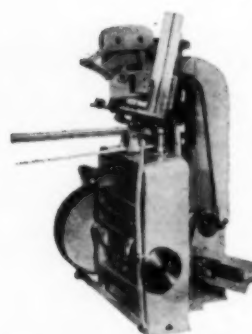
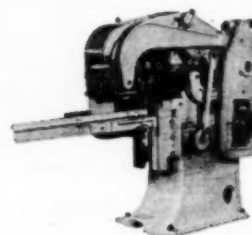


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Soap Chip Dryers complete.
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Positions Open

Soap Suot.: Wanted for work at Baghdad (Iraq) a soap plant superintendent with academic qualification and long practical experience in boiling and producing all kinds of laundry and toilet soaps. Contract 2 years or more. Apply with testimonials and indicate salary desired to Mukamal Co., 120 Wall St., New York 5, N. Y.

Salesman Wanted for prominent line of liquid soap dispensers for jobbing trade. Give full details in your first letter. Address Box 314, c/o *Soap*.

Chemist Wanted with experience in laboratory and production techniques of manufacturing waxes, soaps, detergents, and chemical specialties for substantial southern company. Address Box 315, c/o *Soap*.

Now Representing perfume oil account, desire additional one in allied field, such as flavors, synthetic detergents, gums, waxes, insecticide materials, containers, etc. Comm. and expense basis. Have many years experience selling in Midwest in chemical field and am well and favorably known. Address Box 316, c/o *Soap*.

Positions Wanted

Chemical Engineer with nearly 20 years experience in management and engineering in soap, detergent and fatty acid field available for permanent position. Address Box 317, c/o *Soap*.

Sales Executive Available: 25 years experience with large firms as President, Executive Vice-President and General Sales Manager, in foods, chemicals and metal specialties. Knows the national market and trade thoroughly. Has outstanding sales connections with mfgs., agents and brokers. Age 54 with success background for business. Minimum salary \$20,000 plus bonus arrangement. Presently employed in St. Louis. Address Box 318, c/o *Soap*.

Chemist: Age 29, experienced floor wax, soap, sanitary chemicals, polishes, detergents, automotive chemical formulation and manufacture. Proven successful background. Seeks position in NYC area. Immediately available. Address Box 319, c/o *Soap*.

Miscellaneous

Distributors Wanted: Established manufacturer of exclusive line palm soap powders with 15 years experience and AAA1 rating seeking distributors calling on automatic laundries. Write for full information stating territory covered. Address Box 322, c/o *Soap*.

Sales Representation—Established sales agency covering midwest area with headquarters in Chicago is in position to represent manufacturer selling chemicals or processing equipment to the agricultural chemical, chemical specialty and allied industries. If interested in discussing the matter further, write to Box 323, c/o *Soap*.

Continuous Production facilities available in Southwest for manufacture of granulated soaps. Present monthly capacity of 500,000 pounds can readily be doubled. Will consider a per pound processing deal. Address Box 320, c/o *Soap*.

Wanted—Chemicals: Rubberized color coat. Wet Water Mfr. (Non-corrosive). Protective film metal polish. Can't Slip water wax. Flameproofing liquid. Waterproofing for canvas. U/L approved wax removing cleaner. CTC fire extinguishing fluid. House Ant Rid for oil base. Address Box 321, c/o *Soap*.

Will purchase Immediately: Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box 324, c/o *Soap*.

Urgently Wanted: Glycols—Ethanolamines—Cellosolves—Cyanides—Nickel, Cadmium, Zinc and Cobalt metals and chemicals—Phthalic—Pentaerythritol—other supplies. Chemical Service Corp., 92-06 Beaver Street, New York 5. Tel.: HAnover 2-6970.

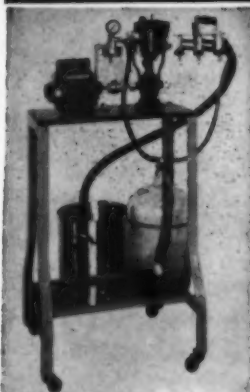
Wanted: Large engineering firm wishes to acquire several complete soap plants through purchase of (1) capital stock, (2) assets, (3) machinery and equipment, whole or in part. Personnel retained where possible, strictest confidence. Box 1215, 1474 Broadway, New York 18, N. Y.

For Sale: Mixing machinery, pumps, storage and mix tanks, agitators, scales, motors (new and used). Plant Equipment Co., Cincinnati 3, Ohio.

New Product Available—Dust Absorber—absorbs dust and lint. Doesn't stain. Ideal for dust mops and cloths. Makes waxed floors gleam; restores beauty of woodwork. S. Parlee Co., 829 Ft. Wayne Ave., Indianapolis 2, Ind.

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For Sale: 1—Lehmann 5-roll 12"x36" water-cooled mill; 1—Proctor & Schwartz 4-section soap chip dryer, with 5-roll cooling roll; 1—1000# jacketed soap crutcher; 1—Pkge. Machinery N+ soap wrapper; 7—Day #71 stainless steel ro-ball sifters, 40"x84"; 2—Dopp cast iron 350 and 650 gal. jacketed kettles; 1—Sperry 36" cast iron plate and frame 24 chamber filter press; 1—Sperry 30" aluminum P & F filter press; 1—Blanchard #10 soap powder mill; 1—6"x4" Blaw-Knox chrome plated chilling roll; 1—Day 1000# aluminum, jacketed dry powder mixer; 45—aluminum storage tanks, 800, 600, and 250 gal.; special—29 unused rectangular aluminum 200 gal. tanks at only \$75 each plus \$10 crating. Only a partial list. Send us your inquiries. Consolidated Products Co., Inc., 15-21 Park Row, New York 7, N. Y. Phone: BARclay 7-0600.

For Sale: 100,000 pounds synthetic detergent of the sulphonated amide type. Write for sample. Make offer. Address Box 325, c/o Soap.

For Sale: Complete soap or sanitary chemical plants. Also individual items such as crutchers, pladders, mills, mixers, presses, dryers, filling equipment, etc. R. Gelb & Sons, Inc., State Highway No. 29, Union, N. J.

For Sale: Soap cutting table — soap slabber — Empire air operated soap press — Roger 1000# mixer. Jasper Machinery Co., Inc., 1123 Broadway, New York. CHelsea 3-9010.

For Sale: 5000# Houchin vertical jacketed crutcher motor driven Empire State foot presses. Soap frames. Mikro pulverizers #1SH, 3 HP & other sizes. Allbright-Nell 4'x9' chilling rolls. Lehmann 4 roll W.C. 12"x36" steel mill. Houchin

8½"x16" 3 roll & 18"x36" 4 roll granite stone mills. Anderson No. 1 and Duo Expellers. Jack, kettles & tanks, iron, copper, alum., stainless. Dryers vac. & atmos. Jones automatic soap presses. Automatic soap chip dryer. Slabbers & cutting tables hand & power. Crutchers. Blanchard #14 soap powder mill. 6 knife chipper. Filter presses 12" to 42". Wrapping & sealing machines. Powder, paste & liquid mixers. Rotex sifters. Filling machines. Grinders: Hammer mills. Colloid Mills. Three roll steel mills, 3"x9", 9"x32", 12"x30", & 16"x40". Portable elec. agitators, pumps, etc. Send for bulletin. We buy your surplus equipment. Stein Equipment Company, 90 West Street, New York 6, N. Y. WORTH 2-5745.

Ernest Grossweiler Dies

Ernest Grossweiler, 63, president and director of Sandoz Chemical Works, Inc., New York, collapsed and died in his office, Feb. 1. He came to the United States from Basle, Switzerland, in 1919, at which time he founded Sandoz Chemical Works. He was a director of Cincinnati Chemical Works, Inc., Cincinnati, and a director and president of Sandoz Chemical Works, Ltd., Toronto, Canada.

Investigate Exterminating

An investigation into the possibility that an important employee of the Board of Education of the City of New York, received a television set as a "gift" to cover up reputed frauds in handling of exterminating contracts in the city's public school system is currently under way by the regular Kings County (Brooklyn) grand jury.

According to a chief assistant district attorney the investigation is

of services not rendered but charged against the Board of Education.

The alleged fraud involves a \$12,000 a year contract with Acme Exterminating Co., Bronx, which is said to have performed only 30 to 40 percent of the work for which it had been paid in full.

M. Werk Co. Sold

Completion of the sale of the capital stock of M. Werk Co., Cincinnati, was announced January 26. Present officers, who will continue to serve in their usual capacities include: president, Werk Cook; vice-president, Howard Dock, and secretary-treasurer, J. J. Underwood. The new board of directors is composed of Werk Cook, Louis Goldsmith, Theodore L. Washauer, Edward E. Stokes and Joseph Karp.

New Drain Cleaner

A new drain cleaner, claimed to be safe, and using extracts of a tropical plant as a base, is now being marketed by Agava Products, Inc., Jersey City, N. J. The product is also suggested for use in removing stains from toilet bowls and other porcelain fixtures. It comes packed in eight ounce containers to retail for 75 cents.

Crippen Expands Services

Raymond C. Crippen, Baltimore research and development laboratories, has expanded its services by increasing its facilities in the bacteriological laboratory, it was announced recently. The firm now offers phenol coefficients, antibiotic and fungicidal tests, as well as antifungal tests on coatings, leathers, etc.

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Mikro 4TH, 2TH, 1SH Pulverizers, Jay Bee Mills U1 and 3AT, Schutz O'Neill, Williams, Stedman and Reitz Mills. Fitzpatrick Stainless Steel "D" Comminuter, 5 H.P. Stokes, Baker Perkins BB and Readco, Day, Hottman Mixers. B.P. Jumbo type 3500 gal. Steam Jacketed Double Arm Sigma Mixer. Day and Robinson 100, 600, 4000 lbs. Dry Powder Mixers and Sifters. R.A. Jones Model E Automatic Soap Press, ½ to 4½ oz. cakes. Three Roll 16" x 40" Porcelain Roller Mill. A.M.F. Soap Amalgamators, 50 to 200 gallon capacities.

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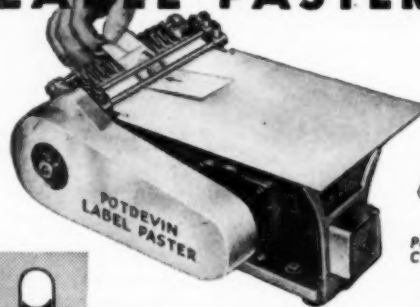
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Urge DDT Allocation

A recommendation that producers of DDT set aside 25 per cent of their production during February and March for defense orders was made by members of the DDT Industry Advisory Committee to the National Production Authority, late in January.

The suggestion has just been approved by the National Production Administration.

Supplies of the commercial grade DDT are tight, according to committee members, primarily because of shortages of benzene, chlorine and sulfuric acid. To insure supplies for the acceptance of an adequate ceiling for all DO orders by all producers was suggested. Military requirements for DDT during the first few months of 1951 will be heavy, and according to some estimates, may reach five million pounds by the middle of the year. Supplies of benzene are low now, but are expected to be increased by about 50 per cent by 1952.

Disinfecting Floor Cleaner

A new disinfecting liquid floor cleaner, "Germelim," which may be used on all types of floors has been announced recently by the Davies-Young Soap Co., Dayton, Ohio. The cleaner is claimed to effect a deodorizing action by killing bacteria which cause stale and disagreeable odors. Active ingredients of the product are potassium laurate, potassium myristate, and ortho-benzyl-para-chloro-

phenol. Germelim has a phenol coefficient of 3.5, which is equal to three and one-half times the germ killing power of carbolic acid. The product is diluted with water, thirty to one, for cleaning purposes. It is reported to be equally effective on all floor surfaces, and may be used with either manual or mechanical methods of cleaning.

phenol. Germelim has a phenol coefficient of 3.5, which is equal to three and one-half times the germ killing power of carbolic acid. The product is diluted with water, thirty to one, for cleaning purposes. It is reported to be equally effective on all floor surfaces, and may be used with either manual or mechanical methods of cleaning.

FTC Closes Bostwick Insecticide Case

AN initial decision providing for the closing without prejudice of the case in which Bostwick Laboratories, Inc., Bridgeport, Conn., was charged with misrepresentation of four of its insecticides was filed late last month by Frank Hier, Trial Examiner of the Federal Trade Commission, Washington, D. C. Bostwick was charged with misrepresentation of "Hep Aerosol Insect Killer," "Bostwick Safe-lex Insect Killer," "Bostwick Super Aerosol Insect Killer," and "Bostwick Moth Proofer."

The examiner said that an affidavit filed by the president of the corporation showed that the challenged misrepresentations have been or will be discontinued or qualified so as to conform to the facts. Mr. Hier also pointed out that "the taking of evidence will accomplish no more than has

Nopco Men in New Posts

The appointment of Travis V. Rankin as district manager of the central area for Nopco Chemical Co., Harrison, N. J., to succeed John N. Gammon, who becomes southern district manager was announced recently by Nopco Chemical Co., New York. Mr. Gammon, who has been with the firm since 1931, replaces the late George H. Small. Mr. Rankin joined Nopco in 1936 and served for four years during World War II with the U. S. Air Forces.

been already accomplished." The examiner ruled that the motion to close the case is "well taken and that the public interest will be served by granting it."

The right of the Commission to reopen the case and resume trial in accordance with its regular procedure is reserved in the closing order.

The motion to close was made by counsel supporting the complaint and concurred in by counsel for the respondent. The closing order becomes the decision of the Commission 30 days after service unless it is appealed, stayed or docketed for review.

The complaint had not only challenged advertising representations concerning the effectiveness of the Bostwick products, but had also attacked as deceptive unqualified claims as to the safety of insecticide sprays.

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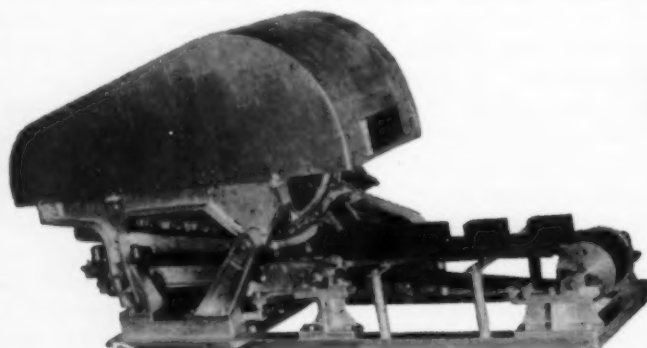
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Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.

TALE ENDS

AS EXPECTED, the Gillette Bills, which if they are not designed to put the screws on soap and detergent manufacturers and marketers, most certainly give a wonderful imitation of same, have been reintroduced into the present congressional boiling stew pot. Soapers are going to need a few friends in Washington during ensuing months if these unnecessary and unfair bills are to be kept off the statute books.

When a Chicago judge offered to give 75 bums from skid row a nickel each to buy a bar of soap so they could take a bath, a worldly wise police officer demurred, suggesting that they would pool the money and buy booze instead of soap. The judge thereupon gave each one a numbered bath ticket.

Intensive testing on human guinea pigs of a new compound to be included in the formula of a deodorant soap has been going on apace during the past couple of months. That in itself is not surprising, but rumor has it that the compound is one of many tested for inclusion in a revamped deodorant formula for *Lifebuoy* which plans in the not-to-distant future to blossom forth in a new and improved form.

Synthetic detergents have been tested and evaluated,—that is 35 brands of them,—by Consumers Union, New York, in its monthly "Consumer Reports" for February. National Cooperatives, Inc., Chicago, Co-op Breakwater, and P & G's *Tide* top the list of recommended products. Several of the products included in the study are not synthetic detergents, but straight alkali cleaners which do not belong. Significant statement in the report: "Soap is still the most effective cleanser of cottons in soft water. . . ." Where no-rinse recommendations are concerned, the report is not exactly favorable.

The former Lever American headquarters building on Memorial Drive facing the Charles River in Cambridge, Mass., which has stood empty and idle since Lever main offices were moved to N. Y. a couple of years ago, recently was sold to become part of ever-expanding Mass. Institute of Technology. How well we remember the first time we entered that new monument of industrial pulchritude some years back and were completely awed by the tomb-like grandeur of its massive lobby. It was then that we knew why newspaper reporters believe that all soap manufacturers are rolling in dough.

Remember the British Government peanut oil producing venture in Africa which got under way with great fanfare four years ago,—and which aimed to produce a quarter-million tons of peanuts on

three million acres of cleared bush land,—and end the world shortage of vegetable oils? Well, gentle reader, it's kaput! Washed up to the tune of a hundred million dollars loss. Only 10 per cent of the anticipated peanut production,—the Britishers call them groundnuts, ostensibly because they grow underground,—was realized and another dreamy socialistic scheme bit the dust. (Moscow papers please copy.)

Fifty per cent of American women loathe soap operas! That's what it says in the *Seattle Times*, published in Seattle, Wash., which in turn quotes a survey reported to have been made by Columbia University in New York four years ago. But, we might add, that ain't the way we heard it. Personally, we think that soap operas always have been designed for female jerks, the proportion of which in the population of the U. S. we would fear

to estimate. Nevertheless, said females can and do buy a wad of soap as events have proved.

Has *Oxydol* changed its formula? Recently, a chemist friend of ours was "taking a look" at the product in the laboratory, and he informed us that he found no soap present,—just alkyl aryl sulfate, etc. If true, could 18c tallow have anything to do with it?

Are these new-fangled dishwashing "chemicals" raising particular hobbs with your hands, Mrs. McGuff? Well, then switch to good old Blubbo Soap Flakes which are so soft and easy on the skin. At least, that's what a recent television commercial said in effect. But, the maker of the soap flakes is also the maker of one of the most popular "dishwashing chemicals." Now, we anticipate that the "dishwashing chemical" department will throw its sunday punch back at old Blubbo, not forgetting to mention old fashioned soaps and dishpan scum. Really, poor Mrs. McGuff must be having one hell of a time these days what with her annual mid-winter chapped hands and all this dishwashing advice.

Good defense?



WHAT is your competitive position in business today? Will you be vulnerable after the current buying spree dies down? Or are you maintaining a strong defensive competitive position by a continuation and expansion of your business paper advertising? If you would maintain a strong defense of your competitive position in the field of soap and detergent products, disinfectants, insecticides, floor products, and a host of allied chemical specialties, we suggest regular advertising now in

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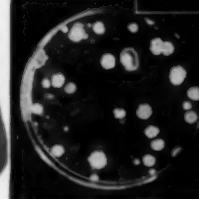
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Can you truthfully say a floor is "clean" when it is actually covered with thousands of potentially dangerous bacteria? Clean floors should be germ-free floors. SAN-I-SUDS is science's answer to the problem of ridding floors not only of grease, dirt and grime but also of germs! Ordinary soaps do not kill bacteria, they simply move them about the surface being cleaned and transfer some of them into the scrub bucket.

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